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1976

## 1976-1977 Wright State University Undergraduate Course Catalog

Wright State University

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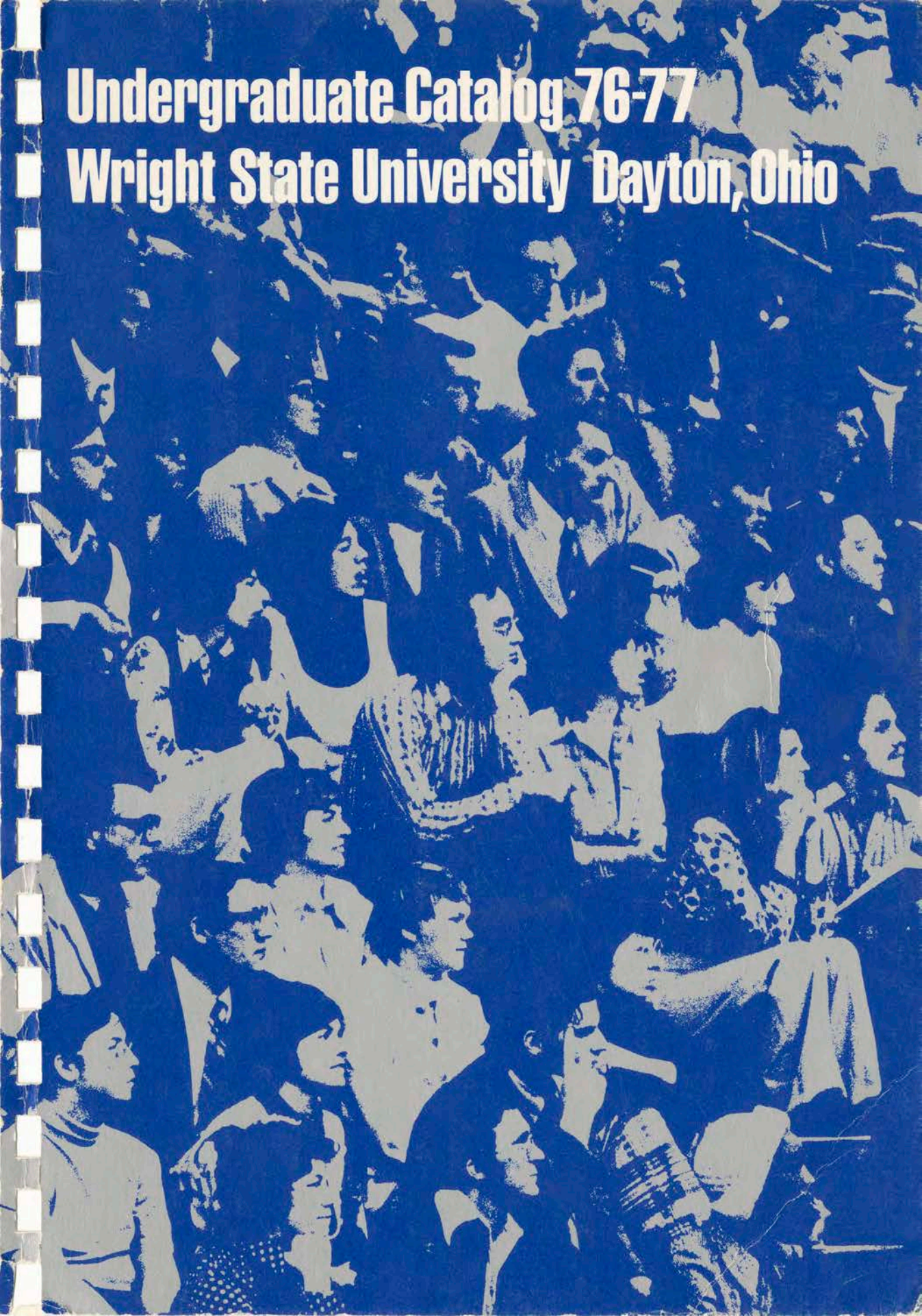
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**Undergraduate Catalog 76-77**

**Wright State University Dayton, Ohio**





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The material in this catalog has been prepared for informational purposes and does not constitute a contract between the student and the university. The university reserves the right to make changes in policy, regulations, fees, and programs without notice.

Questions concerning admission to the university or questions about academic programs should be directed to the Office of Admissions, Wright State University, Dayton, Ohio 45431, telephone 513/873-2211.

**Undergraduate Catalog 76-77**  
**Wright State University**



# University Calendar 76-77

## **Fall Quarter**

September 16  
October 11  
November 24  
November 25-28  
November 29-December 4

## **Winter Quarter**

January 3  
January 17  
March 11  
March 12-18

## **Spring Quarter**

March 28  
May 30  
June 3  
June 4-10  
June 19

## **Summer Quarter**

June 15  
July 4  
July 19  
July 20  
August 19

## **September 16-December 4, 1976**

Thursday / classes begin  
Monday / holiday  
Wednesday / classes end  
Thursday-Sunday / holiday  
Monday-Saturday / final examinations

## **January 3-March 18, 1977**

Monday / classes begin  
Monday / holiday  
Friday / classes end  
Saturday-Friday / final examinations

## **March 28-June 12, 1977**

Monday / classes begin  
Monday / holiday  
Friday / classes end  
Saturday-Friday / final examinations  
Sunday / commencement

## **June 15-August 19, 1977**

Wednesday / Summer A and C begin  
Monday / holiday  
Tuesday / Summer A ends  
Wednesday / Summer B begins  
Friday / Summer B and C end

# Contents

University Calendar	ii
The University	1
The Student	17
Vital Information	27
Degree Requirements	39
College of Business and Administration	43
College of Education	49
College of Liberal Arts	67
College of Science and Engineering	91
School of Nursing	109
Branch Campuses	113
Course Descriptions	121
Faculty and Administrative Officers	187
Index	200



You've undoubtedly heard it before—no two things in the universe are exactly the same. And that's certainly the case with universities. Each has its own personality.

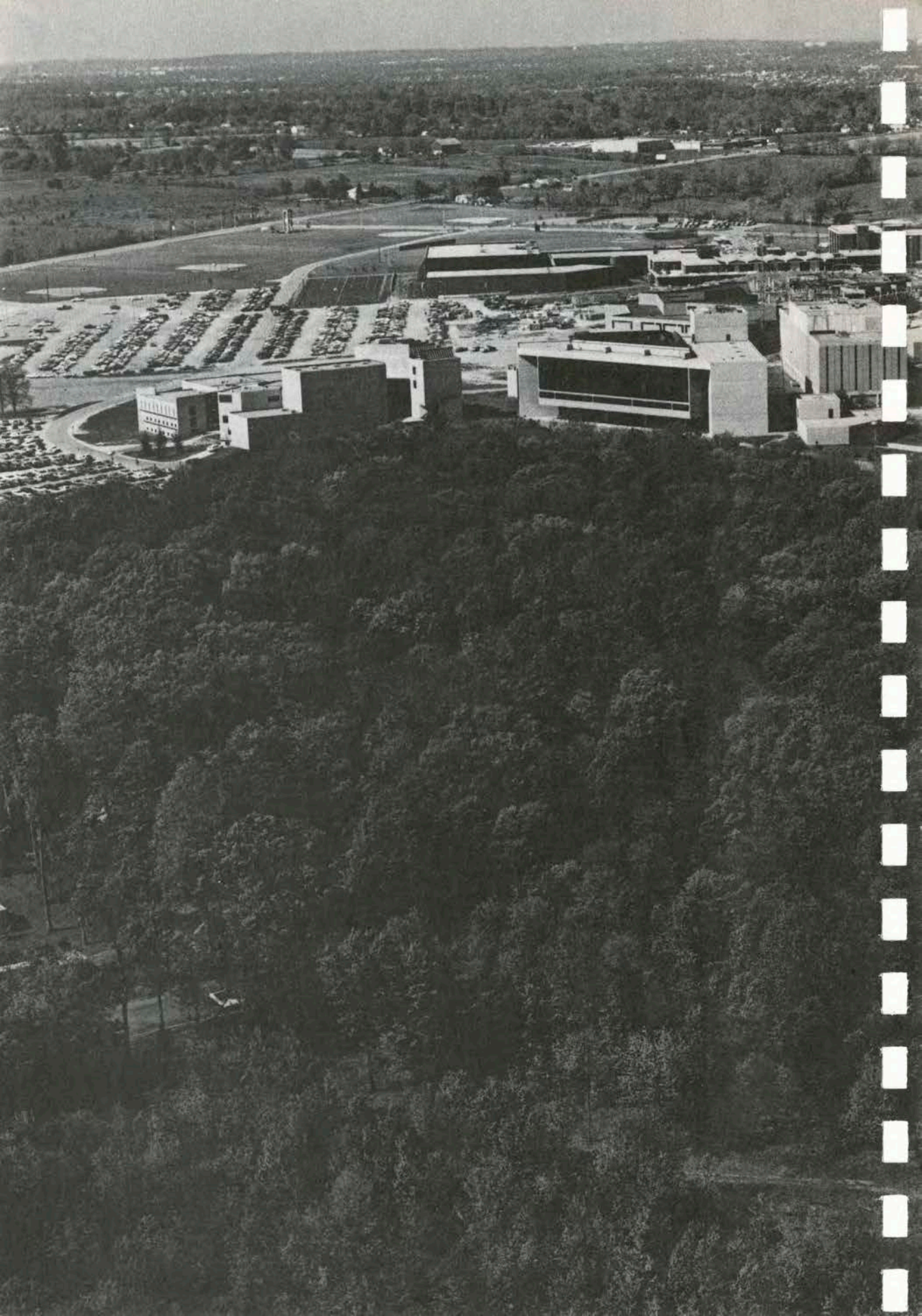
Its character is comprised of many things. A university is much more than classes and professors. It's hard work and backsliding. It's poets, artists, and classical performers and rock groups, fraternities and sororities, weekends with research papers and weekend ski trips with friends. It's studying in the library and having coffee at the student center. It's discovery and experimentation and changing your major three times. It's a place where you can participate in the arts, scientific research, and find out what it's like to teach as well as be taught. It's a place to find yourself and to set a direction for your life.

Those are images of universities in general. We now would like to be more specific about one in particular—Wright State University in Dayton, Ohio. We want to present to you a clear picture of our campus to help you decide if Wright State is the place for you.

# The University











If you visit campus, the first thing you'll notice is our location—we're next to Wright-Patterson Air Force Base, so you can expect to see a jet or two overhead. Then the campus itself has a rather remarkable quality in that it looks entirely different depending from which direction you approach it. If you come to campus via Colonel Glenn Highway (which incidentally takes you into downtown Dayton in a matter of minutes) you'll see immediately the mass of campus buildings framed on each side by open rolling fields and a riding stable. But if you approach campus from Kauffman Avenue on the opposite side, you drive up a winding road through a wooded area before you reach the campus buildings.





After you're on campus you'll notice the inner cluster of buildings surrounded by parking lots and cars. That's because the majority of our students commute. And any time you may visit, you'll probably see a building under construction, because we're new. We became independent in 1967.

Once inside our buildings you'll discover they're connected by a tunnel system . . . which takes a little time to figure out. You'll learn to appreciate the system the first day of bad weather. (Yes, we have to admit to rain or snow once in awhile.)

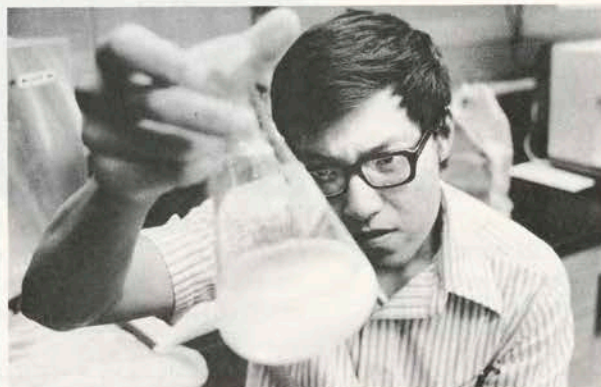
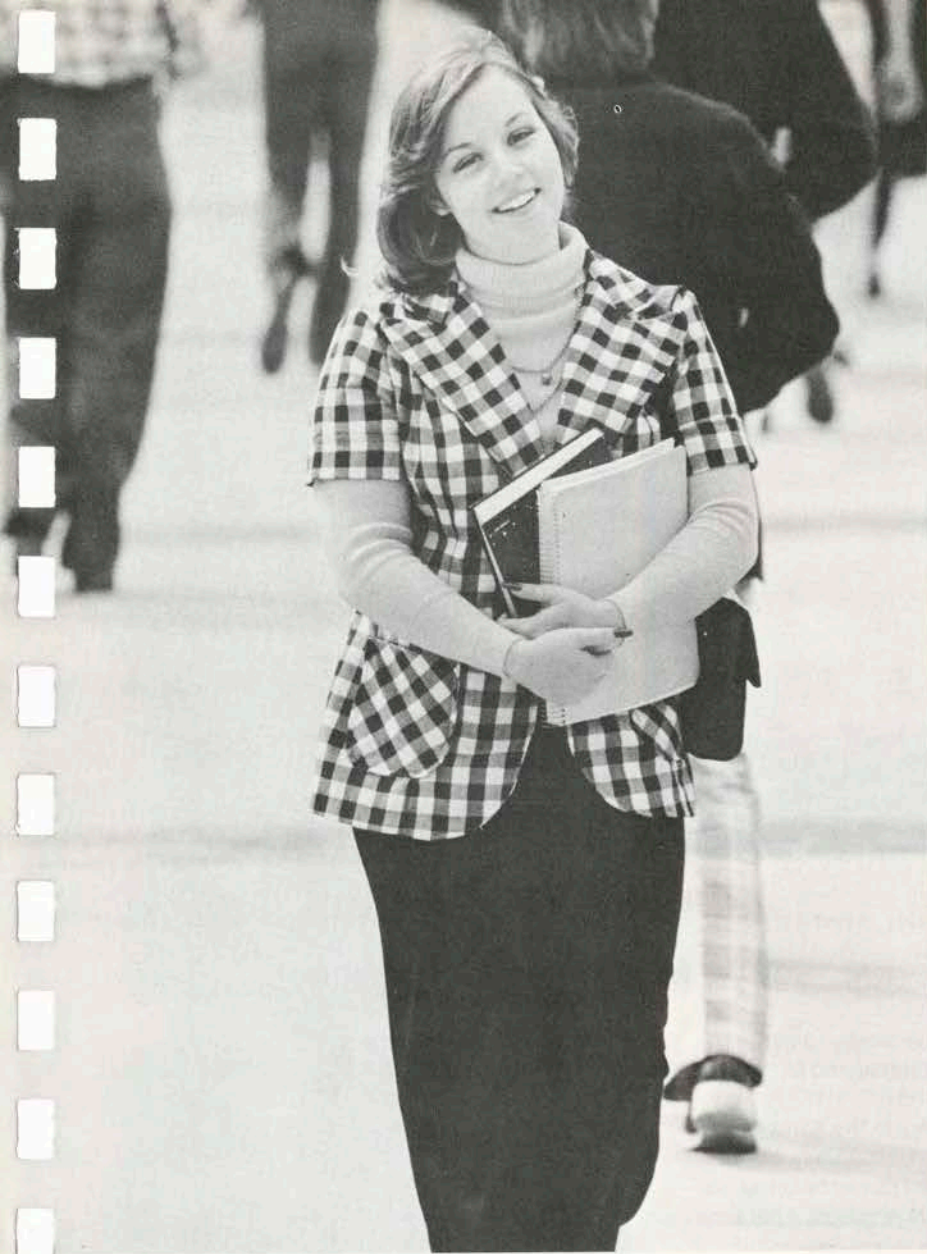
If you look around at the people on campus, you'll see our students range a great deal in age. Some are quite young and some are older than you might expect. You'll also see a number of handicapped students. They've chosen us because of our excellent handicapped student services program. And if you take a closer look at the people, you may get the impression they're quite mature. That's due, in part, to the fact a lot of them hold down jobs while going to school. Our faculty may be difficult to single out, too. Their overall youth and energy makes them look a lot like our students.

Thus you have a few initial impressions of our campus, strung together to create a sort of mental journey. But one thing we want to get across to you that you might miss on a short visit to campus is that Wright State can be many things to many people. We can be what you want us to be and we can serve you in ways which will help you to realize your dreams.

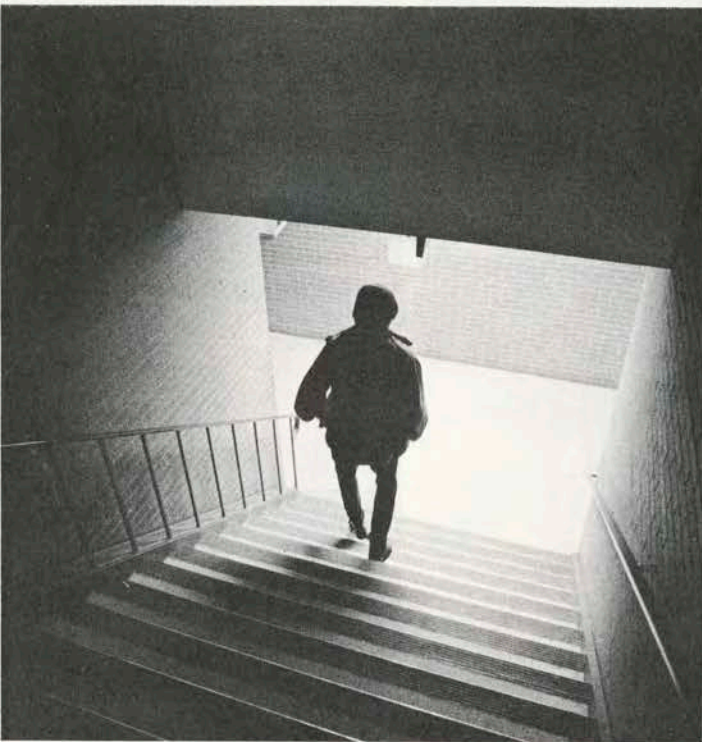
It's all up to you.











## Past

To understand what we are today, it helps to know what has happened in the past.

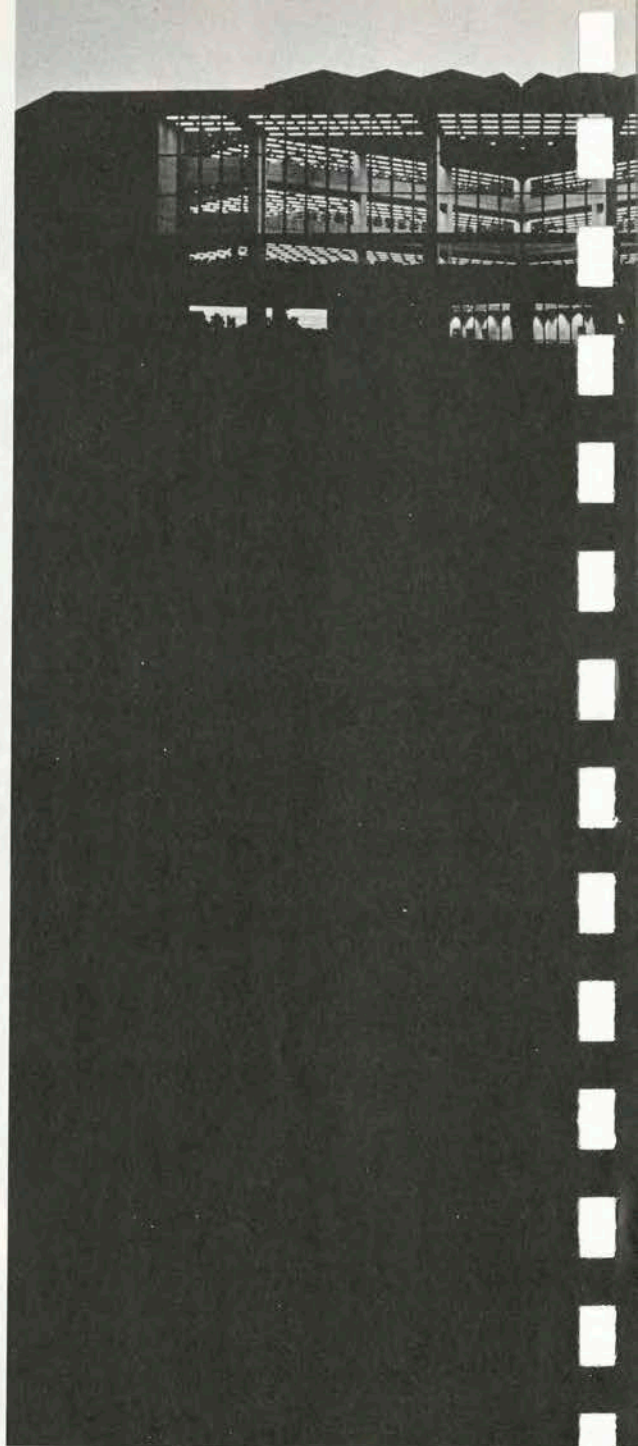
As we said, we're new—the youngest of the twelve state universities in Ohio.

What we have become is due mostly to generous support from the Dayton community and its business and professional leaders.

To start at our very beginning, in the early 1960s, Miami University and Ohio State University were offering classes in Dayton in borrowed facilities. As increasing numbers of students enrolled, it became clear the branch needed its own facilities.

So in mid-1961 a community fund-raising effort produced \$3 million to purchase our present campus and construct the first building, Allyn Hall. Our present 618-acre site was chosen partly because Wright-Patterson Air Force Base could contribute a lot of technical knowledge to programs at the school, particularly in the areas of science and engineering.

In September 1964 Allyn opened its doors to 3,200 students and 55 faculty members as the new Dayton Campus of Miami University and Ohio State University.



As we continued to grow, our name was changed to the Wright State Campus in 1965 and the second, third, and fourth buildings were constructed by 1967, completing Founders Quadrangle.

We became independent in October 1967. At that time Wright State University was recognized as a fully accredited autonomous state institution organized, then, into the Divisions of Business Administration, Education, Liberal Arts, and Science and Engineering.





Since then we've seen the completion of the University Center, the Residence Hall, the Physical Education Building, the Creative Arts Center, the Brehm Laboratory of Natural Sciences, the Biological Sciences Building, and the University Library, bringing to fruition our commitment to develop a fully balanced university program.

The approval of the Wright State University School of Medicine in 1974 marked our first professional doctorate. The facilities for the school are now under construction.

So briefly you can see that in just ten years we have made notable progress. In 1964, we were a branch campus. Now we're a full university with 14,000 students and more than sixty programs of study which lead to eight different baccalaureate degrees and more than thirty programs of graduate study in the Colleges of Business and Administration, Education, Liberal Arts, and Science and Engineering, and the Schools of Nursing, Graduate Studies, and Medicine.

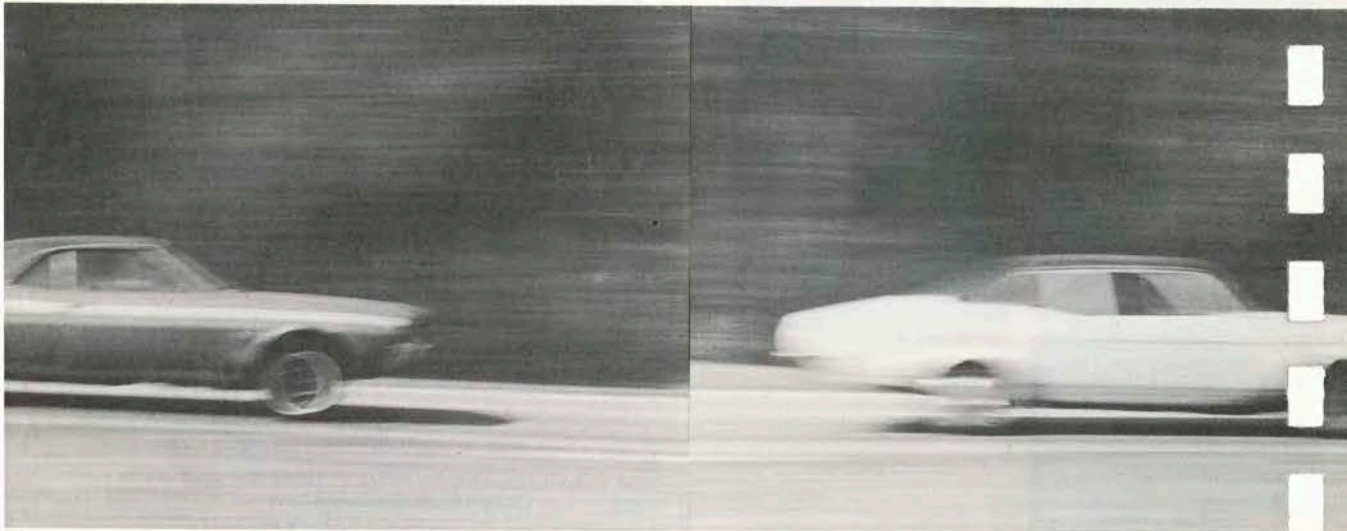
### **People**

Our 14,000 individual students don't fall easily into any one category. So to give you a general idea about them, we rely on studies and statistics gathered from different areas of the university.

For instance, the majority of our students are undergraduates—more than 11,000, most of whom come from southwestern Ohio. However, we have transfer students from several states as far away as California and New York as well as foreign students from Ethiopia, Greece, Peru, and Nigeria.

As a state-assisted university, we have an open enrollment policy for undergraduate students, which means we accept each Ohio resident who applies at the earliest possible time we can accommodate the applicant.

Why do students choose Wright State? Our students give us many reasons, but two seem to crop up again and again. Our convenience of location rates number one while our comparatively low tuition rates also appeal to a majority of our students.



Most of our students are commuters. One study suggests that about two-thirds of our full-time undergraduate students live at home and at least ten percent live in off-campus rooms and apartments. Our one residence hall accommodates 154 women and 154 men. And, considering that so many of our students commute, we provide bus service to and from campus from the point where Dayton city bus service ends.

Our students are young, although they tend to be slightly older than those at most other campuses. About a fifth are under 21 and more than seventy-five percent are under 29. A 1975 study indicated fifty-three percent of our students are male, forty-seven percent female, and sixty percent are single.

Academically, we find Wright State students represent the entire spectrum of the scale, according to national ACT results. Overall, our students perform above the national norms on the ACT. The ACT profile also indicates the mean average of four high school grades for our freshmen is 2.75 on a 4.0 scale, with eighteen percent of them falling between 3.5 and 4.0.

If you were to take a poll of your own, you'd probably hear a lot of other reasons, too. You might hear that we're friendly or that we have a lot to offer. Some might say they just like the way the campus feels.

### **Purpose**

As a fairly large, general university, we are expected to serve many functions, which requires us to remain flexible to serve everyone's needs.

Overall we believe our chief purposes are to provide excellence in teaching, to contribute as much as possible to human knowledge, to serve the larger community, and to maintain the type of environment in which these goals may be attained.

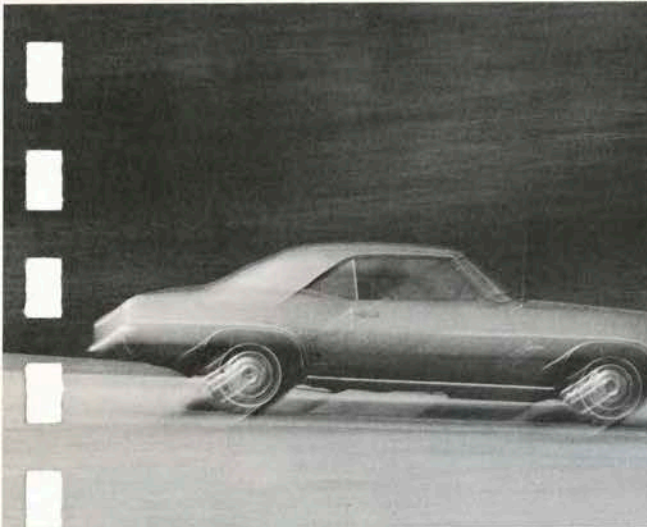


And we're constantly working to eliminate discrimination. We have an established program of affirmative action on campus, with special program counselors, to ensure equal opportunity for all qualified people and to prevent any person from experiencing discrimination while at Wright State.

### **Profile**

We offer undergraduate programs through the Colleges of Business and Administration, Education, Liberal Arts, and Science and Engineering, and the School of Nursing. The

We're committed to providing career and professional education for our students as well as study outside the area of specialization. We view education as a life-long learning process, so in addition to traditional degree programs, we provide



adult education. And to enhance the learning process we feel it's important for the teacher and the student to exchange ideas freely and we expect our faculty to experiment with innovative teaching techniques.

We want our faculty and students to remain open-minded and to explore new directions which may contribute to human knowledge. Thus we place importance on basic research in the arts and humanities, as well as in the science and technical fields, especially if it will benefit the larger community.

As a public institution of higher education we make every effort to serve the community, attempting to be particularly responsive to the needs of the Miami Valley, the state of Ohio, and the region.

We try to create an environment in which each person has academic freedom, with the opportunity to learn the truth about any subject as long as it doesn't interfere with others' rights. We actively seek people of all backgrounds for our faculty, staff, and student population to maintain an identity as a general university.

Schools of Graduate Studies and Medicine offer postbaccalaureate programs.

The College of Business and Administration prepares students for careers in business. Bachelor of Science degree programs are offered with majors in accountancy, business economics, finance, management, marketing, office administration, and quantitative business analysis. These programs include internships to give students valuable professional experience before they leave the university.



The College of Education is basically a professional school, devoted to preparing entry-level teachers, educational administrators, and other school leaders, and to preparing professionals in human service such as counseling, rehabilitation, and therapy. The college awards the Bachelor of Science in Education and the Bachelor of Science degrees.

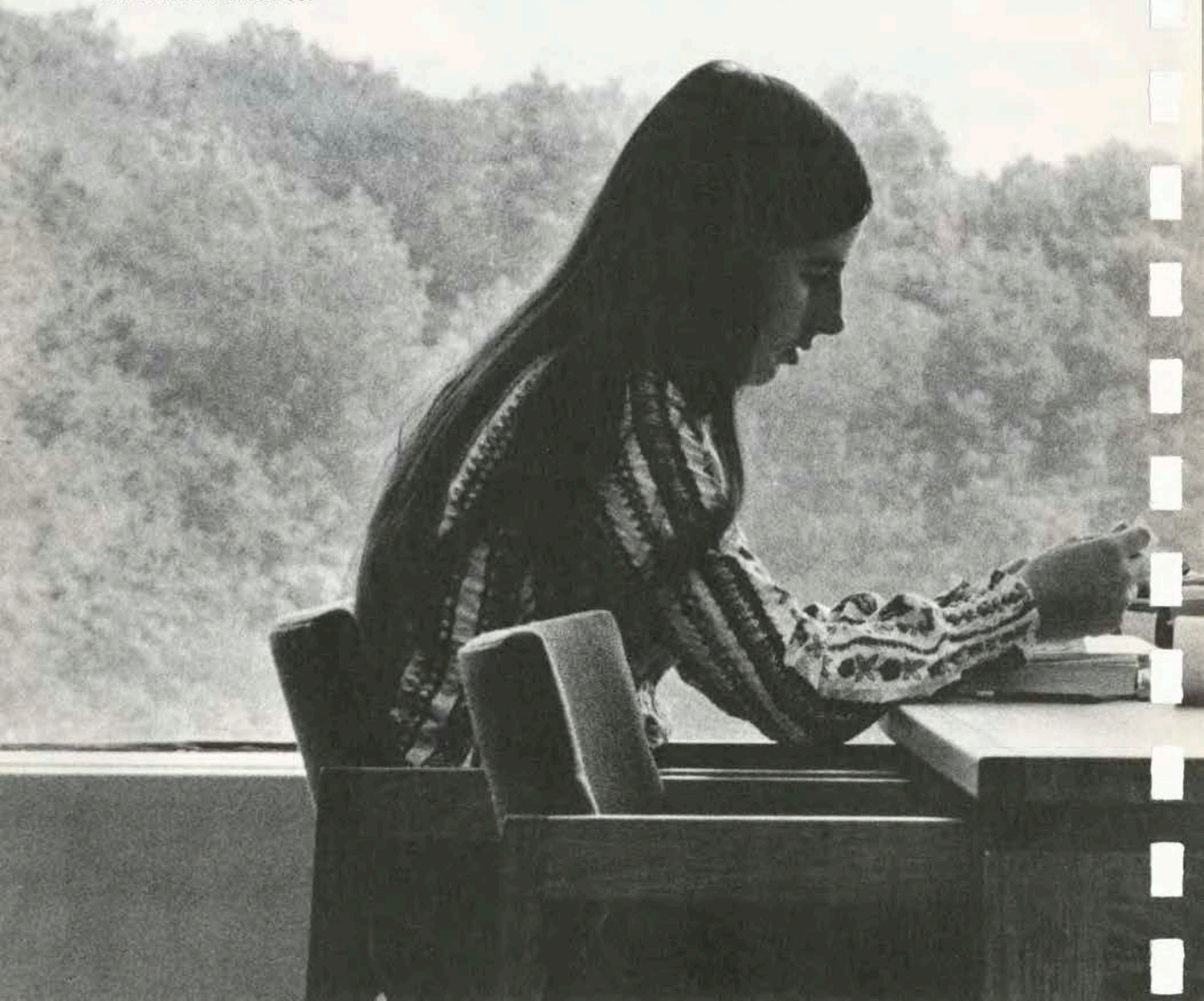
The College of Liberal Arts assumes the responsibility for providing liberal studies at the university. Departments within the college contribute to the university's General Education program in which students can view at an introductory level a wide variety of subjects before preparing for their chosen careers. The college offers programs which lead to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Science degrees.

The College of Science and Engineering is discipline-oriented. It offers programs leading to the Bachelor of Science and Bachelor of Arts degrees as well as interdisciplinary programs in computer science, engineering, physics, and environmental studies.

The School of Nursing is future-oriented, offering a health care program geared toward the community to give students the skills and leadership capabilities to deal with health care needs of the future. The program leads to the Bachelor of Science in Nursing degree which qualifies the graduate for the State Board Test Pool examination, required for state registration as an R.N.

The School of Graduate Studies is responsible for all graduate programs at the university, offering more than thirty master's degree programs and courses at the graduate level for teacher certification candidates and nondegree students.

The goal of the School of Medicine is to provide professional education for primary care physicians. Graduates of this four-year doctoral program receive the Doctor of Medicine (M.D.) degree and a fifth year of study is available to those who want it.





The University Division is on campus to serve underclass students, especially new students—both degree and nondegree. All freshmen are assigned advisers, as are sophomores who haven't chosen a major or who haven't met the qualifications for their major field of study. Advisers counsel students on meeting their General Education requirements and assist them in choosing a major. They also supply career information, arrange proficiency and placement tests, and help students with scheduling or other academic problems.

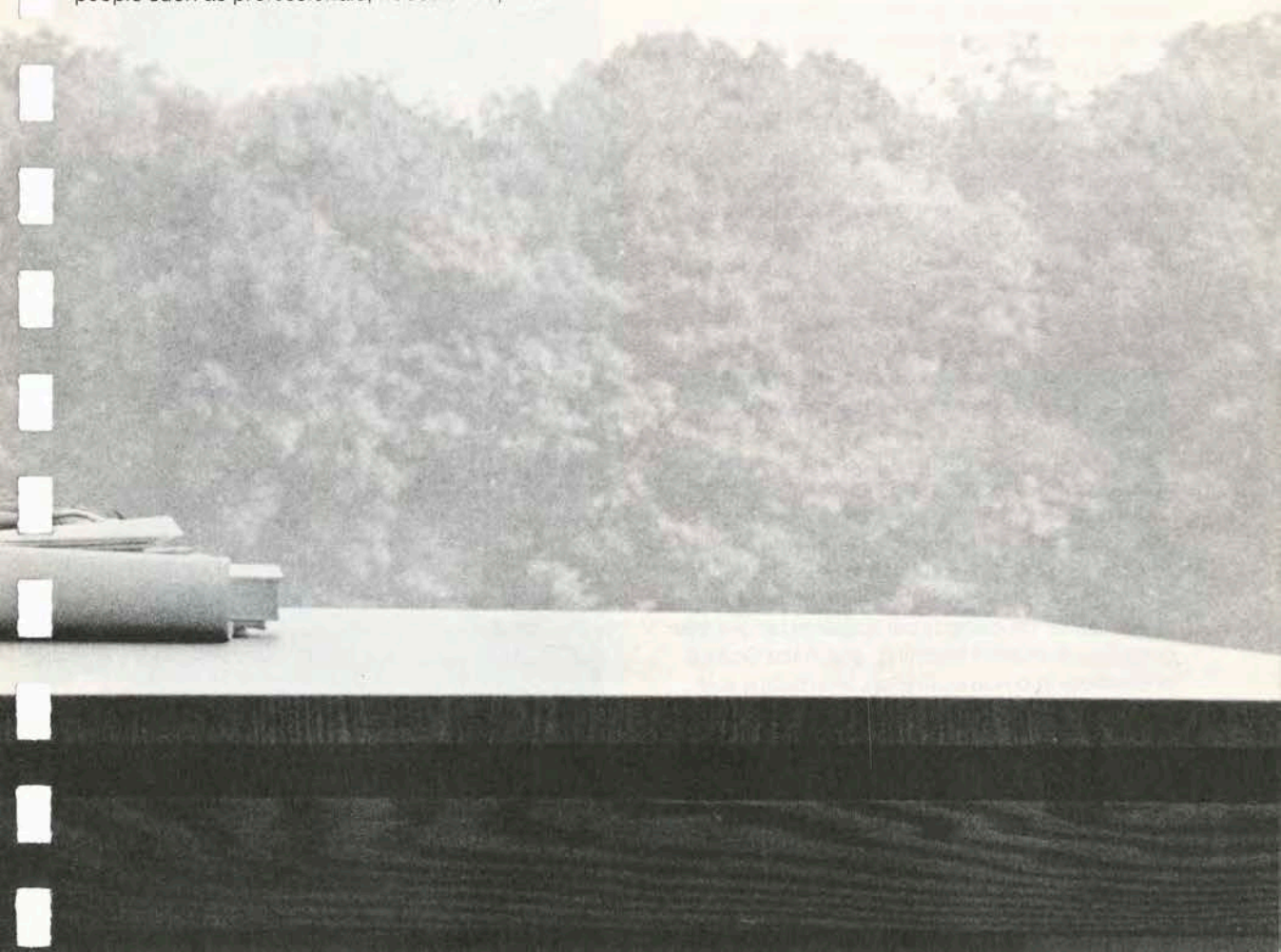
The division's developmental education program offers free tutoring to all undergraduate students, study skills for those who need it, and English and mathematics skills programs for students who need to improve their abilities in these subjects before taking introductory level courses. The division also conducts the Wright Start program each year for high school students from low-income areas in the Miami Valley.

The College of Continuing and Community Education offers a wide variety of noncredit courses at the Eugene W. Kettering Center in downtown Dayton, on the main campus, and at several off-campus locations. These courses are designed to meet the needs of different groups of people such as professionals, housewives, the

elderly, and others interested in lifelong learning. Since the courses are noncredit, nondegree students may take courses without going through the university's formal admissions process. The college also cooperates with other academic colleges and departments on the main campus to offer special credit courses and workshops.

And to serve the people not immediately in the Dayton area, Wright State has branch campuses in the Celina and Piqua areas.

The Western Ohio Branch Campus is located at Grand Lake St. Marys between Celina and St. Marys. Its day and evening classes are mostly lower division with a limited number of upper division and graduate courses available. There are also programs leading to two-year associate degrees.





The Piqua Resident Credit Center offers advanced and graduate level courses in the late afternoon and evening. Lower division courses are offered cooperatively with Edison State General and Technical College.

Wright State is accredited by the North Central Association of Colleges and Secondary Schools. Also, programs in the College of Education are accredited by the State of Ohio Department of Education, our music programs are accredited by the National Association of Schools of Music, business programs by the American Assembly of Collegiate Schools of Business, social work by the Council on Social Work Education, medical technology by the American Society of Clinical Pathologists, and medicine by the Liaison Committee on Medical Education.

We also hold membership in numerous organizations, including the American Assembly of Collegiate Schools of Business, the Midwest Conference on Graduate Study and Research, the National University Extension Association, the Ohio College Association, the Association of Urban Universities, the American Association of State Colleges and Universities, the American Council on Education, and the American Association of Colleges.

Besides the conventional discipline- and classroom-oriented approach to higher education, we also offer some innovative alternatives.

For one thing, most of our departments offer independent study. And off-campus education is prevalent in professional programs. In the College of Education, off-campus participation ranges from observing to student teaching, and in the College of Business and Administration, internships and class projects bring students in contact with local business and industrial firms.

You can also obtain credit by examination, which means you can get college credit for courses available at the university by passing an examination offered by the appropriate department.







Interdisciplinary study has been especially common in the College of Liberal Arts. The Department of Religion, for example, cooperates with other departments in presenting courses. Students can also combine work in two different departments or colleges for a dual major. And the College of Liberal Arts offers a major in "selected studies" which allows a student to pursue a self-designed course of study not provided by the majors presently available, culminating in a senior project.

For those who want the experience of different cultures, there is an opportunity to study abroad through the International Study Program. Students last year studied in Israel, Germany, England, Canada, Mexico, and Brazil.

Academically superior students have an opportunity to develop their intellectual interests through the University Honors Program. The curriculum includes special sections of General Education courses and junior and senior seminars featuring small classes and independent study.

Wright State students also have hundreds of additional classes available to them through the university's membership in the Dayton-Miami Valley Consortium, an association which includes many area colleges and universities. Full-time students at Wright State may cross-register for credit at member schools at Wright State's tuition rates, as long as class space is available, the student has the adviser's consent, the course isn't offered at Wright State, and the student meets course prerequisites. (Since ROTC programs are not available at Wright State, students can enroll in such a program through the consortium.)

The consortium also offers cooperative library privileges to students at all member institutions. These library holdings total more than a million volumes.

The Center for Law and Graduate School Advising and Consortium Activities at Wright State provides a central source of information about law study, law schools, graduate and professional schools, and courses and activities at member institutions of the consortium.



Helping others to understand and to appreciate black American culture and heritage is the goal of Bolinga Black Cultural Resources Center on campus. The center sponsors lectures and seminars by noted speakers and performances and exhibitions by black artists. It also has audiovisual facilities and a library of special publications and black history books.

Students can also benefit from the work of the Public Education Religion Studies Center (PERSC), a center of interdisciplinary studies combining the resources of the departments of Engineering, Sociology, Philosophy, Geography, Biological Sciences, Education, English, Political Science, and Business.

An innovative agreement with the Engineering and Science Foundation of Dayton has placed Wright State in charge of the Engineering and Science Institute in downtown Dayton. The institute is a part of the College of Continuing and Community Education. It offers continuing education programs emphasizing areas beyond those covered by existing degree programs. There is also professional training in engineering, science, and management for members of the industrial-scientific community.

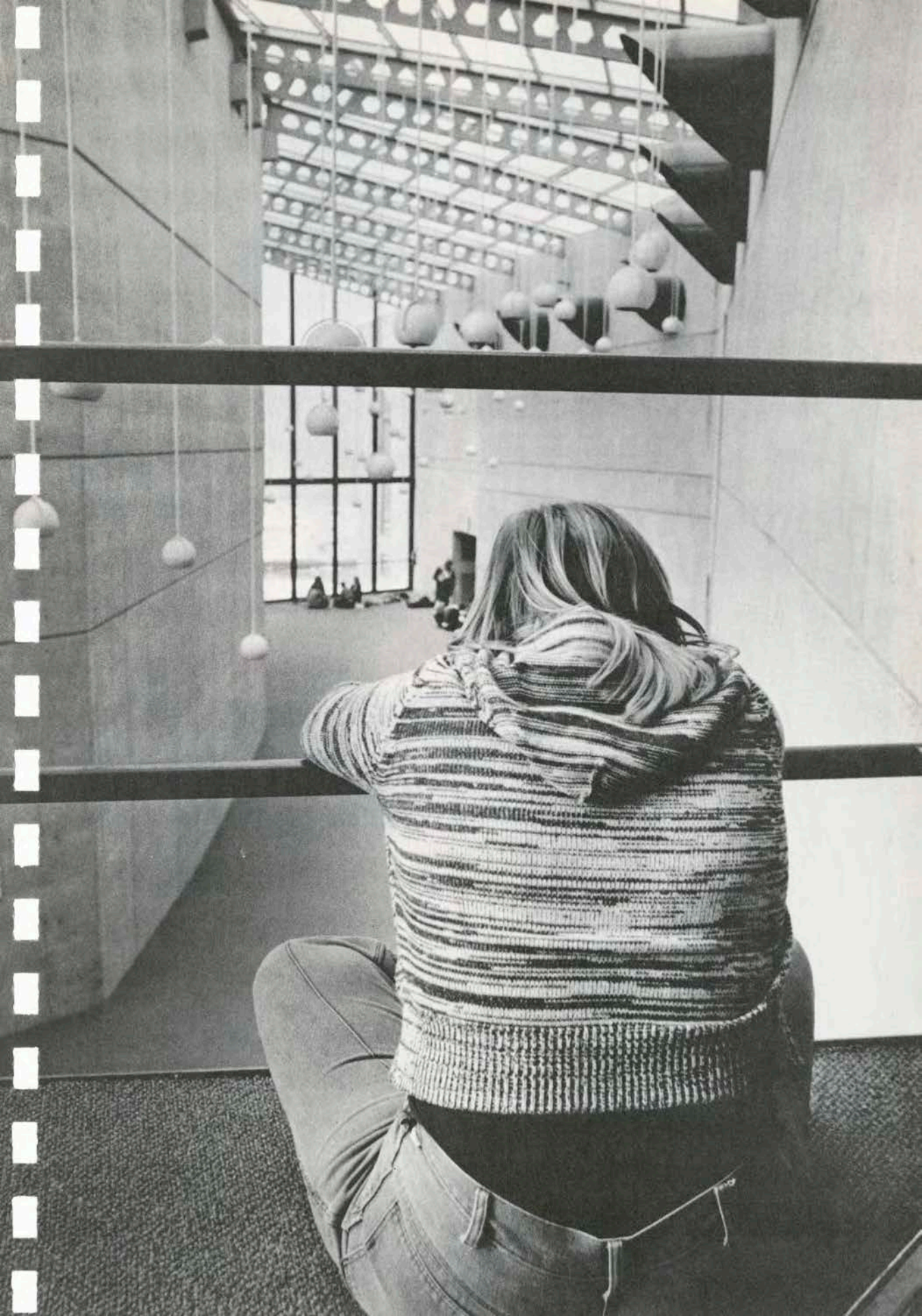
The University Library, of course, plays a most important role in a student's learning experience, as well as in faculty teaching and research. The University Library's collection contains over 300,000 bound volumes, 263,000 microforms, 60,000 U.S. and Ohio government documents, 23,500 pieces of nonprint media, and 5,400 periodical subscriptions. The library's Department of Archives and Special Collections contains such items as the private aeronautical library of Orville and Wilbur Wright, the papers of James M. Cox, records of the Miami Conservancy District, and a collection of first editions of American women writers' books.

If you're wondering whether you'll just become a student number at Wright State, we can tell you the size of our classes varies from large lecture sessions to small classes and seminars. About seventy-five percent of our classes have enrollments between five and thirty-four and most "large" classes enroll from thirty-five to sixty-four students. Our figures suggest that relatively few Wright State students find themselves in large classes. So for students who want them, the opportunities are good for close contact with faculty.

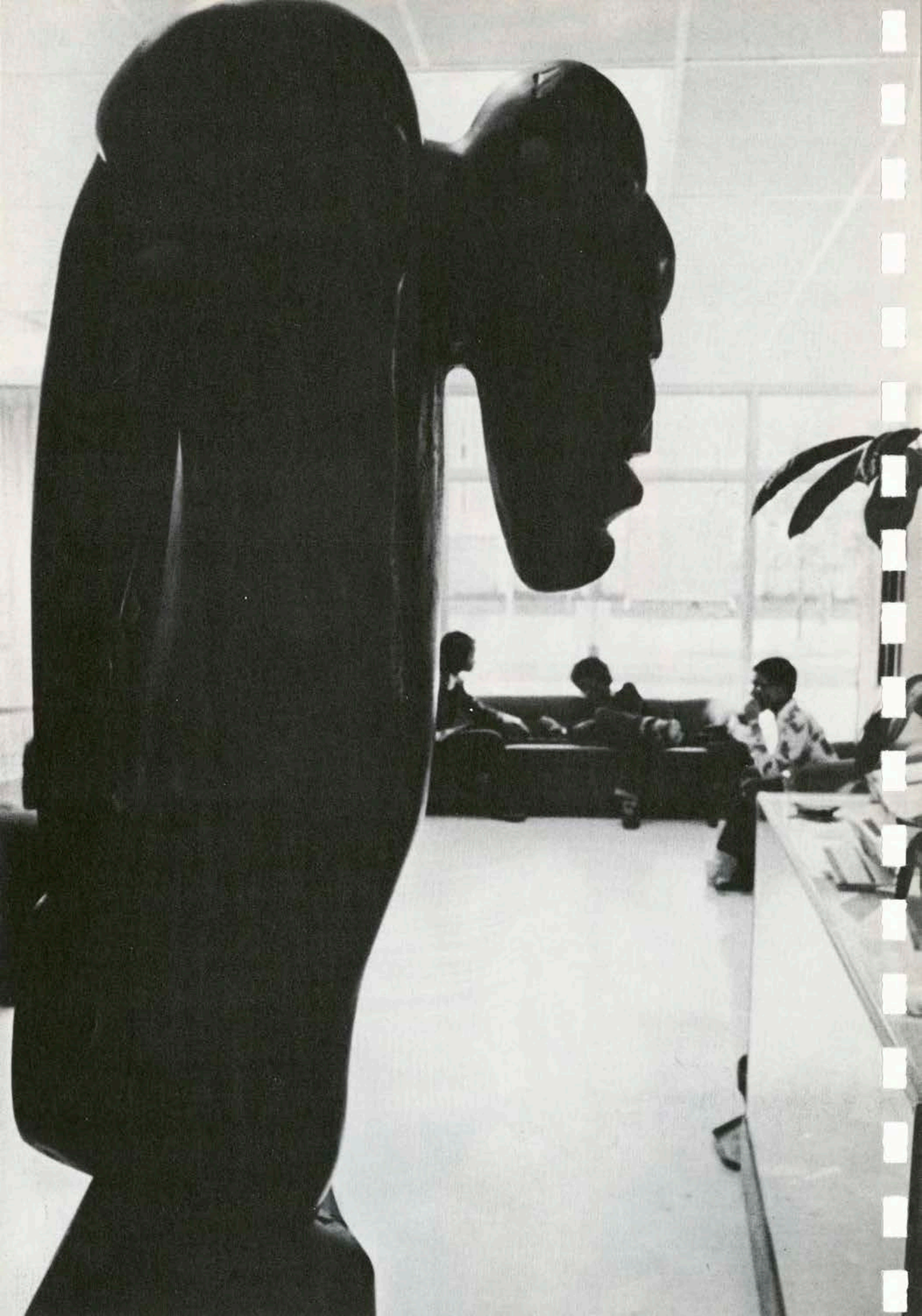
Our faculty's average age is between 35 and 40. Almost half are between the ages of 30 and 40. About seventy-five percent hold terminal degrees in their fields and many also bring to the classroom valuable professional experience. The faculty includes about 500 full-time and 200 part-time members.









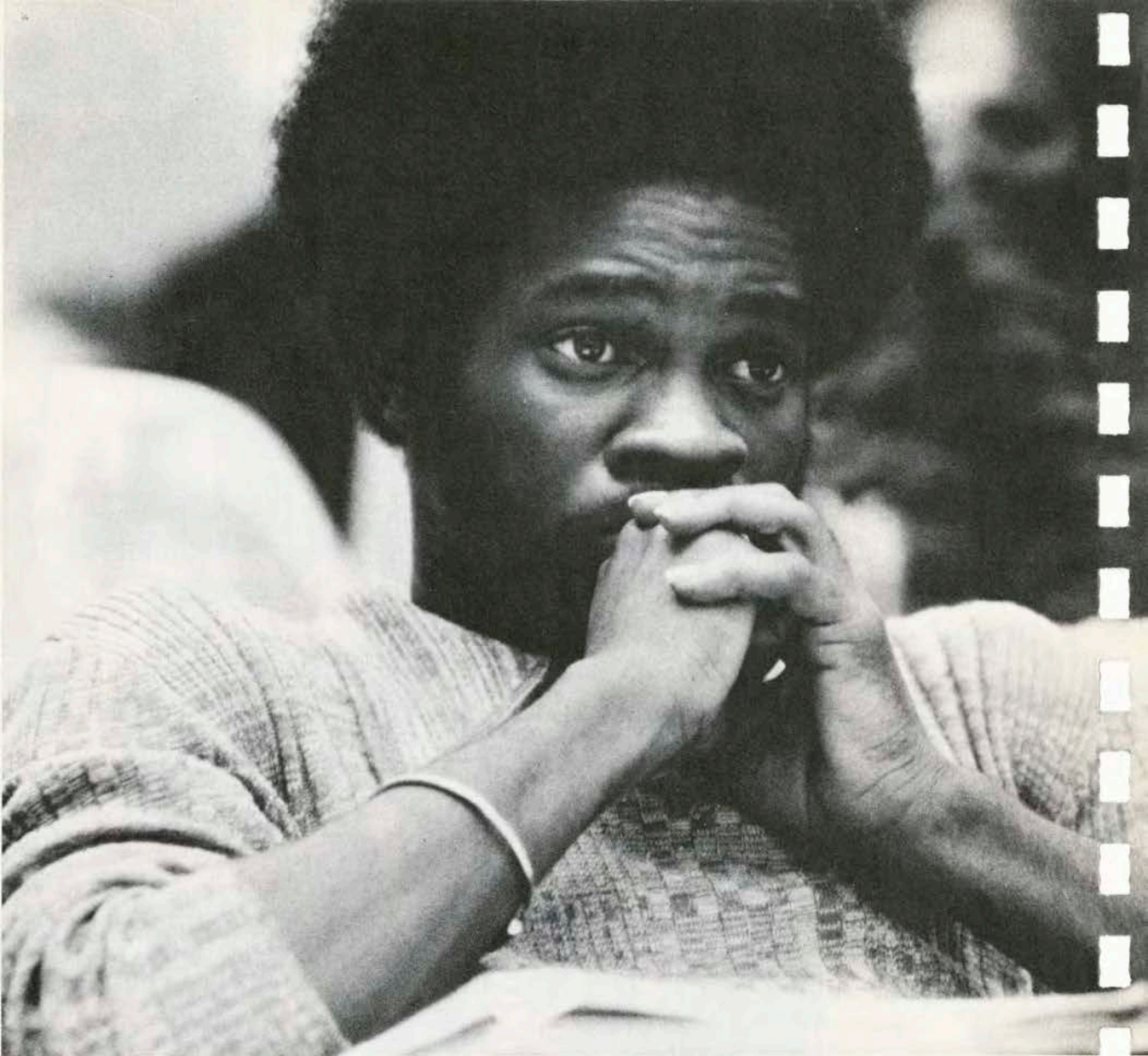




# The Student







At a university, our function is not merely to assign classes and enumerate degree requirements. We're here to see that you have every opportunity to enjoy the benefits of a university education and to help you get over the rough spots if and when they occur.

### **Services**

Wright State's student services is a family of offices including Admissions, the Registrar, Financial Aid, Career Planning and Placement, Counseling Services, Health Services, Handicapped Student Services, the Dean of Students, Student Information Systems, and Veteran's Affairs. Other student-centered areas include the Residence Hall, the University Center, intercollegiate athletics, intramural sports, and open recreation.

The student services offices are staffed by professionals who are equipped to help you in these particular areas. Most of these services are free and you're invited to visit any of the offices at any time, although making an appointment beforehand makes it less likely you'll have to wait to talk to someone.





To provide a link between students, faculty, and administration, the Office of the Dean of Students supplies assistance and general information about the university to students and advises student government and other student organizations. The office is also involved in establishing policies concerning students and supervises expenditures from the student activities fund.

University-to-student and student-to-student communication is aided by assigning each student a campus mailbox in the Allyn Hall student lounge. Most official university correspondence is placed in these mailboxes. Students are assigned a mailbox in the fall and keep the same mailbox throughout the year unless they fail to register early for winter or spring quarter. Mailbox assignments are handled by the Student Information Systems office near the student lounge.

We feel that the time and effort involved in getting an education are too valuable to be spent without first carefully assessing yourself and devising a career plan. The Department of Career Planning and Placement concentrates on involving students and alumni in the process of career choice, and assisting them in finding both full-time and part-time positions.

Through workshops, academic courses, career counseling, and occupational testing, the department helps students explore and evaluate factors important to their career planning, such as their potential abilities, skills, interests, values, needs, and priorities. These planning services, supported by an extensive career library, help students make decisions and find methods to explore the world of work.

These placement services help students develop their career paths through summer and part-time work, and assist seniors, graduate students, and alumni in finding full-time positions.

We strongly encourage students to visit the Career Planning and Placement Department during their freshman or sophomore years to begin planning for their careers and to learn more about the special services available to them throughout their academic careers. Seniors and graduate students should be sure to register for placement services.



Something we want our students to learn early in their academic careers is that personal growth is as important as intellectual development. Our Counseling Services staff help students to integrate their academic and personal lives through individual and group experiences which deal with interpersonal relationships, a most important aspect of student life. Counselors also work with students who are experiencing test anxiety, fear of failure, changing values, or uncertainty about their future plans. Students who wish to discuss these or other personal concerns with a staff member may call for an appointment or stop in at the Counseling Services office Monday through Friday.

The university has always made an effort to extend the opportunities of higher education to the physically handicapped. All campus buildings have been constructed without physical barriers. Ramps and railings lead to each building and all buildings have elevator access to every floor. A tunnel system connecting the buildings eliminates having to go outside to change classes.

Veterans who attend school either part-time or full-time are entitled to benefits. Information is available in the Veteran's Affairs office on campus.

A good place to meet and talk with students, staff, and faculty is the University Center which includes a cafeteria, private dining rooms, lounges, game rooms, a rathskeller, a gift and novelty shop, and a bookstore. The University Center Board (UCB), consisting of Wright State students, schedules seminars, workshops, exhibits, guest speakers, artists, and dances at the center. The facility can also be used for public events on request.

The University Bookstore, owned and operated by the university, is located on the lower level of the center. It stocks textbooks and tradebooks used in Wright State classes as well as a variety of other books, supplies, and gift items.

Medical care is available to students in the health clinic in Allyn Hall. (We recommend that you schedule appointments.) Part-time physicians from the School of Medicine and a full-time nurse are on duty to handle emergencies during normal working hours Monday through Friday. The Health Service also sponsors preventive health care programs for the university community such as flu shots and hypertension testing, and community services such as visits from the Greene County Bloodmobile.

The Security and Parking Services Office maintains a campus lost and found, so if you find or lose an item on campus, please notify that office. Items are held there for ninety days, and if not claimed, are sold at auctions.

All emergencies should be reported immediately to the Security Dispatch Center, campus telephone extension 2111.











For the sports-minded, the university has a well-developed program of intramural sports for men and women. The Department of Intramural Sports sponsors teams in touch football, basketball, bowling, swimming, wrestling, volleyball, and softball, and individual activities including table tennis, handball, badminton, golf, tennis, and archery. There are also open recreation periods when any student may use the physical education facilities.

We feel our intercollegiate athletic program benefits both the student and the university. Students can participate in these sports, either actively or as spectators. And these sports serve as a link between the university and surrounding community. Any full-time undergraduate student in good academic standing at the university may try out for any of the varsity teams including basketball (the major sport), cross country, wrestling, swimming, baseball, tennis, or golf for men, and volleyball, swimming, tennis, basketball or softball for women. The university is a member of the National Collegiate Athletic Association and the Association of Intercollegiate Athletics for Women.





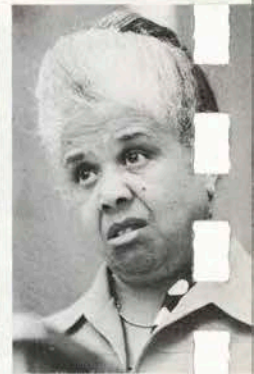




## Environment

The Student Caucus is an elected representative student assembly which officially acts on behalf of the student body. Caucus members represent the students on Academic Council and on major committees of the council. The caucus consists of six main campus students—one from each undergraduate college, one from the School of Graduate Studies, and one at-large member who serves as chairperson of the group.

The Academic Council is the major decision-making body of the university, consisting of representatives from the faculty, administration, and students. It deals with academic regulations, curriculum changes, and other university-wide policy.



For students who want to live on campus, the university has a residence hall which houses 154 women and 154 men in separate wings. Most of the rooms are doubles although some triple occupancy rooms are available at reduced rates. First floor rooms are assigned to the physically handicapped. Residence hall students eat in the University Center cafeteria next door to the residence hall and use recreational facilities at the University Center and in the Physical Education Building. High school students who want to live in the hall must have a predicted grade point average of 2.25, combining high school grades and ACT scores. Students with previous college work must have a 2.0 grade point average. Housing preference is given to applicants who don't live within commuting distance of the university.

For details on rules and regulations governing student conduct at the university, students may consult the *Student Handbook*.



university community. Students may also submit essays and papers to a special publication of scholarly writings by students. Students can also work at the student-run campus radio station, WWSU.

There are also many opportunities on campus for students to both see and participate in the performing arts. The Department of Music presents many concerts and recitals by student and faculty soloists and choral and instrumental groups. University Theatre presents six major productions, several one-act plays, and at least one children's theatre production during the academic year and four major productions during the summer. The theatre department has also offered a motion picture series and the University Center Board sponsors many current popular films. Outstanding speakers and performers are brought to campus through the university's Artist Series.



Students who don't know where to take a grievance, problem, or suggestion can go to the Office of the Student Ombudsman. The ombudsman provides accurate information about the university, investigates and tries to resolve student problems, and makes students' concerns known to the faculty and administration.

Inter-Club Council (ICC) is made up of representatives from the various student organizations on campus. Any student organization registered with the Office of the Dean of Students can be a member of ICC. Its purposes are to develop cooperative campus activities and to provide communication among the different student groups. Each year ICC sponsors October Daze and May Daze which gives member organizations a chance to have money-making projects and recruit new members.

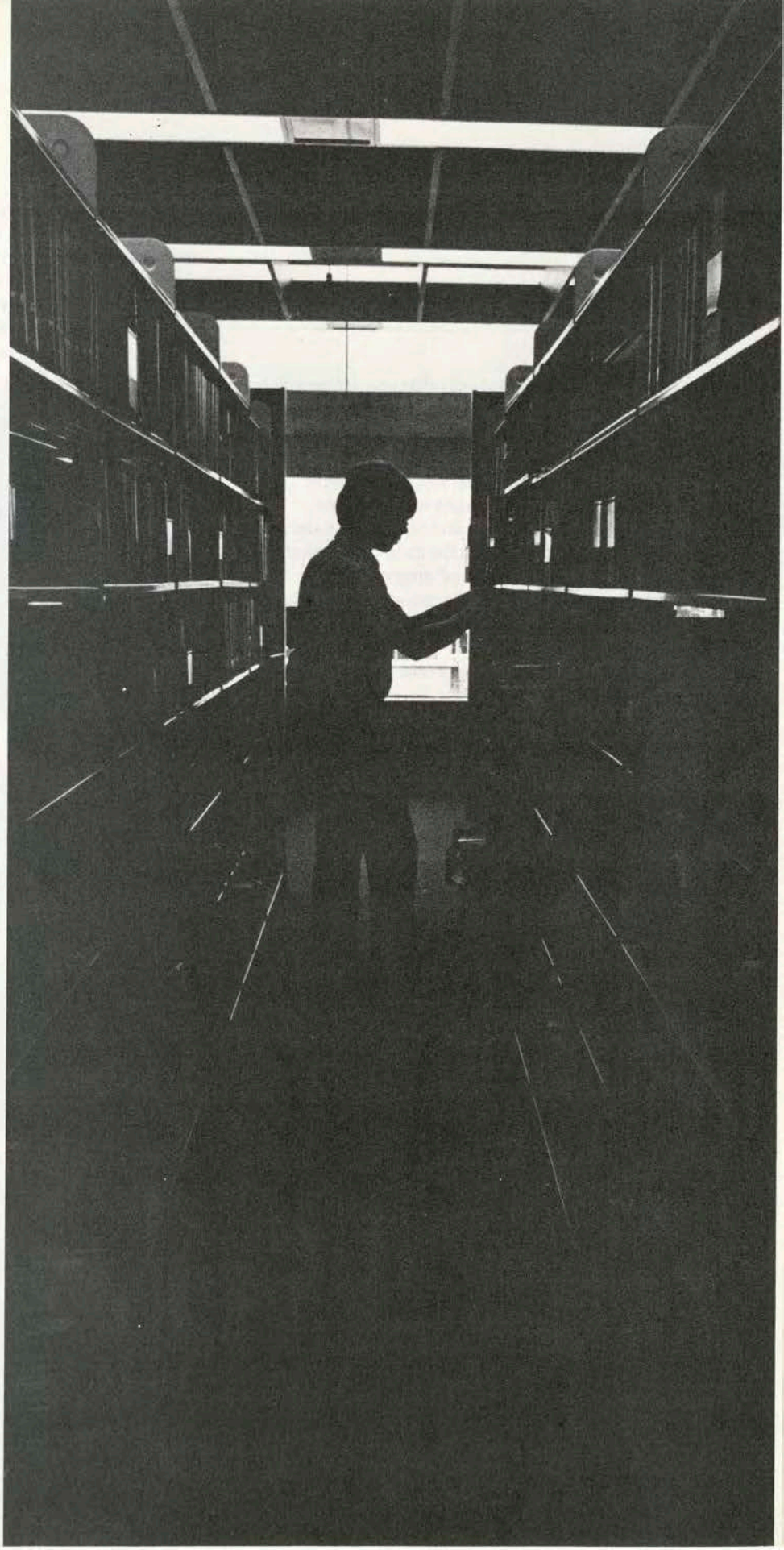
For students who wish to put their creative talent to work, there are several student media outlets on campus. The student newspaper, *The Guardian*, which utilizes editors, writers, proofreaders, salespeople, and photographers, is published twice a week during the academic year. The magazine *Nexus* comes out three times a year and includes writing and original art work from members of the







# Vital Information





Three offices at the university that you will probably have a lot of contact with are the Offices of Admissions, the Registrar, and Financial Aid.

The staff of the admissions office provides information about the university, its academic programs, and undergraduate and graduate admissions to prospective and returning students. Staff members also help students to complete the application for admission and arrange for admissions testing where it's required. The office arranges individual and group tours of the campus and can make appointments for students to talk with faculty in the academic areas in which they're interested.

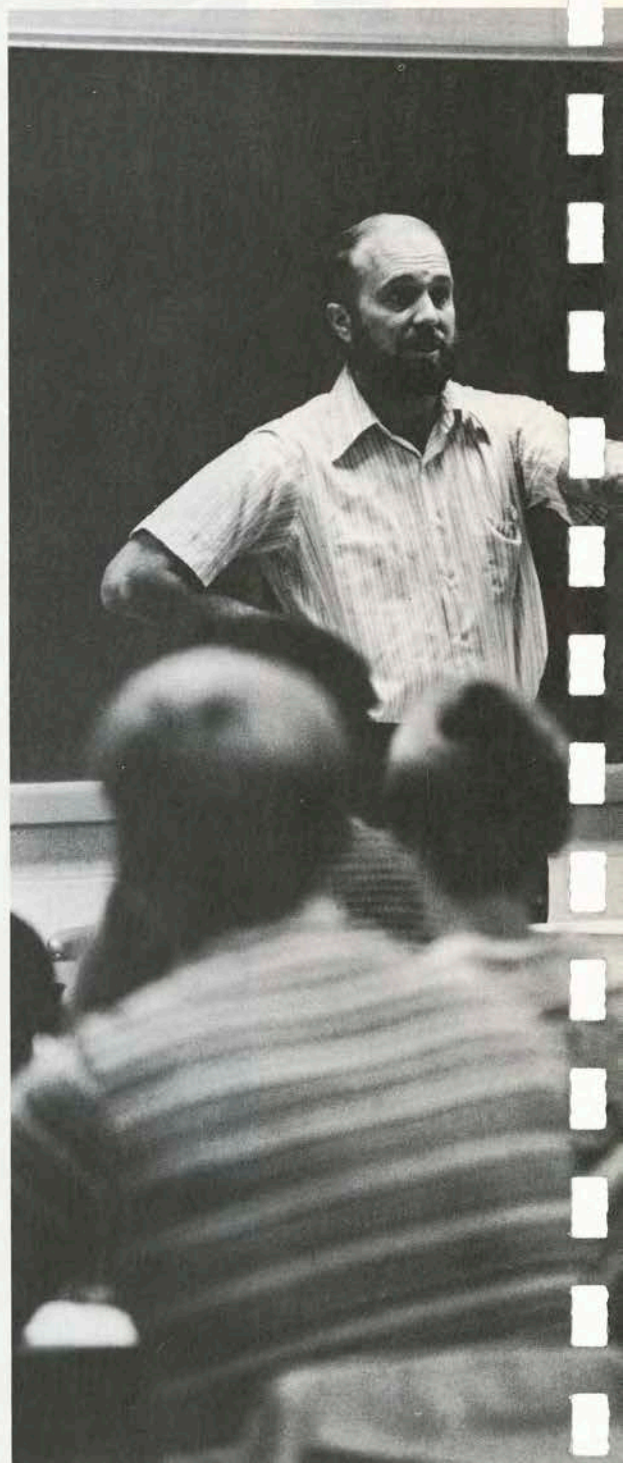
Included among the duties of the Office of the Registrar are registering students in classes and assessing fees, processing class withdrawals, obtaining fee refunds, accepting applications for graduation, processing grade reports, and issuing academic transcripts to students who request them.

The Office of Financial Aid helps students who have difficulty in meeting the costs of a college education. Although we feel the student and the student's family are primarily responsible for financing a college education, we realize there are many reasons a student's financial resources may be limited.

To assist students who have established financial need, the university offers scholarships, grants-in-aid, loans, and employment. For applications for the various types of financial assistance, you should contact the Office of Financial Aid.

## **Admission**

Ohio students who have graduated from an accredited high school or who have passed a high school equivalency test (GED), are automatically eligible to enter a state university in Ohio. Out-of-state students, however, besides meeting regular admissions requirements, must present evidence of above-average ability to do college work.







***Freshman Degree Student:*** If you're beginning college work at Wright State with the intention of earning a degree, the procedures for applying are simple. First, get an application form from the Office of Admissions, complete it, and return it with the nonrefundable \$25 application fee. Then have your high school send a transcript of your grades to Wright State.

Although national test scores are not a requirement for admission, except for nursing students and those who wish to apply for university housing, you must have either the American College Testing Service score (ACT) or the Scholastic Aptitude Test score (SAT) on file with the University Division before the end of your first quarter at Wright State.

If you're not entering college for the first time or if you aren't interested in working toward a specific degree at the present time, there are several admission categories at Wright State which can fit your particular need.

***Transfer Student:*** If you have been registered for one or more courses at another college, you are considered a transfer student. You must present a transcript from each college in which you've been registered before your application can be processed. Nursing students should also submit a high school transcript.

A transfer student who is on probation or who doesn't have a cumulative C average for all courses taken is considered for admission on warning. A student who has been suspended from another institution for academic reasons will normally not be considered for enrollment at Wright State until one calendar year has elapsed. A student who feels special circumstances warrant it, may appeal to the Committee on Admissions to have the one-year intermission reduced. The committee may admit the student on warning.

Courses that were taken ten years or more prior to a student's admittance will be evaluated. Transfer credits for degree-seeking students will be evaluated by the end of the student's first quarter at Wright State. Also, credits earned through correspondence study are subject to the same regulations as other transfer credit.

The university will accept a minimum of ninety credit hours for an associate degree from an accredited institution. The registrar or director of admissions evaluates each transcript and usually gives credit for all hours above ninety for which the student received a C or better.

The student's adviser shall determine how the transferred credits are to be used toward the student's major program. If there are exceptions to these transfer credit rules, the dean of the student's major college will make the decision.



Transfer students who have earned more than thirty-six hours but who don't have an associate degree are evaluated by the Office of Admissions on a course-by-course basis. The student will be sent to the major department for advising or to the University Division if no major has been declared.

Transfer students with thirty-six hours or less are also evaluated by admissions on a course-by-course basis. These students are assigned to the University Division for advising.

General Education requirements for transfer students who don't have an associate degree will be determined by a course-by-course evaluation. Transfer students receive credit for a course or sequence if they have completed three-fourths or more of the Wright State quarter-hour requirements. For example, a 4.5 credit hour course in introductory sociology will be considered the equivalent of SOC 111 and 112 (six hours).

Normally, transfer students with an Associate of Arts degree have fulfilled the General Education requirements, but each college determines if there are deficiencies. There are specific exceptions in the School of Nursing and the College of Business and Administration.

The School of Nursing accepts General Education credits for transfer if the courses are equivalent to the requirements of that program.

In the College of Business and Administration, credit may be accepted for work done at the 100-200 level in required courses offered by the college. Course work corresponding to 100-400 level courses outside the College of Business and Administration may be applied to the nonprofessional and General Education requirements. Fifteen quarter hours maximum of business at the lower division level will be accepted as elective credit, but this credit cannot be used to meet upper division business course requirements.

The college may accept for credit a principles course at the 300 level if the student completes an advanced course in the same subject area with a grade of C or better in addition to the required courses that must be completed in the major. This additional course will be considered an enriching process for the student. The course work is counted toward the degree requirements and will not normally result in an additional number of hours to complete the degree requirements.



All students who graduate with a Bachelor of Science in Business degree must have at least forty percent of their course work in the College of Business and Administration and at least forty percent of their course work outside the college. In no case may a student apply more than sixty percent of the total course work toward either of the two areas mentioned.

*Certification Candidate:* A college graduate who would like to become certified as a teacher must apply for admission, file all the necessary credentials, and pay the application fee.

*Nondegree Undergraduate Student:* If you want to take courses at Wright State but you don't intend to work toward a degree at this time, you can register as a nondegree student. You may take as many courses as you like as long as you meet the requirements for each course. To apply you need only fill out a simple application-registration form and pay a nominal application fee. Later if you decide to enter a degree program, you can file your credentials and pay the regular application fee. Thirty hours of nondegree work can be applied toward a degree program. Nondegree students may also receive academic advising from the University Division, and may participate in any of the services of the division, including orientation, tutoring, and developmental education courses.

*Superior High School Student:* A high school student who has completed the junior year and is in the top fourth of his or her class may take courses at Wright State if the student is recommended by the principal or counselor and presents written permission from the parent or guardian. If you would like to know more about this program, contact the Office of Admissions.

*Returning Student:* After an absence of five quarters or more from Wright State, a student must apply for readmission through the Office of Admissions. A student who has been dismissed may apply for readmission, after remaining out of school for three quarters, by petitioning the University Admissions Committee.



## Registration

Wright State is on the quarter system. The academic year is divided into three quarters (fall, winter, and spring) and a summer session (two five-week terms or a long session equal to a quarter). Classes are assigned values in quarter credit hours. The credit hour is based on fifty minutes of instruction each week for one quarter. Laboratory courses usually require considerably more time for each quarter hour. The general rule for time expenditure is that you should plan to spend at least two hours in outside preparation for each hour you spend in class. So, if you're also working while going to school, you should carefully plan your academic program with an adviser.

The minimum full-time undergraduate load is twelve credit hours per quarter with the average between fourteen and seventeen credit hours. The normal full-time load during the summer term is between six and nine credit hours.

If you're employed full time, we recommend that you register for no more than six quarter hours, or two courses, during the regular academic year and for just one course during a summer term.

Registration dates are announced in the quarterly schedule of classes. If you register early, you must pay fees by the date specified in the class schedule. If you don't, your registration will be cancelled to make room for students who register later. If your registration is cancelled, you can re-register during mass registration. You cannot register after the first week of classes unless you have the permission of the instructor, department chairperson, and the college dean. No one may register after the second week of the quarter.

To make a change in your registration, you must first submit a change of program form to the Office of the Registrar and pay the appropriate fee. There is no fee for adding courses, and no fee is charged if you make changes before classes begin.



You may drop a course or withdraw from the university without grades up to the date specified in the university calendar. These courses won't be recorded on your transcript. After the withdrawal date, you need to petition to drop without record. A student who stops attending a course without officially withdrawing receives a grade of F or X for the course.

Your academic achievement is indicated by the following letter grades and points used in calculating grade point averages.

- A** Highest quality / 4 points per credit hour
- B** Second quality / 3 points per credit hour
- C** Third quality / 2 points per credit hour
- D** Lowest quality / 1 point per credit hour
- F** Failed / 0 points per credit hour
- X** Failure to complete a course for which registered, without officially withdrawing / 0 points per credit hour

Your Wright State grade point average is obtained by dividing the total number of points you've earned at Wright State by the total number of hours you've attempted, excluding the following symbols, which appear on your record but are not used in computing grade point averages.

- L** Audit; given only if arranged for when you register.
- N** No report; the instructor did not report a grade.
- P** Passing; given only for separately approved courses.
- S** Satisfactory performance; final grade assigned upon completion of the project.
- U** Unsatisfactory performance.
- I** Incomplete; given only when part of the work required is missing and arrangements have been made with the instructor to complete the work. This grade should be removed within one quarter or the I will remain on your record indefinitely. Only by exception will this grade be changed after one quarter.
- T** Attended; this grade is used only for honors courses. These hours are not counted toward graduation.



Students who attain high grade point averages during a quarter are placed on the Dean's List. To be named to the list, you must have at least a 3.4 grade point average for the quarter, have attempted at least twelve hours of credit for the quarter, and you cannot have received a grade of X, I, or N. The categories for the Dean's List are: 3.4–3.4999, honors; 3.5–3.999, high honors; and 4.0, highest honors.

You may repeat once any course for which you received a grade of F, X, or D, and the first hours and grade points won't be used in computing your

If class space permits, you may audit a course with written approval from the instructor before you enroll. The amount of participation required of an auditing student is left to the discretion of the instructor, but it cannot exceed that required of regular students. You can't use audited courses to establish full-time status and you can't change registration for audit to registration for credit after the first class meeting.



grade point average. And by petition you may repeat some courses in your major field for which you received a C. If you're going to repeat a course, you must specify so on your registration form. Your cumulative grade point average at the end of the quarter will reflect the drop of the previous hours and grade points of the repeated course. However, all grades and grade point averages for earlier terms will remain on your record, and in calculating cumulative grade point averages for honors, each grade recorded for you will be considered.

Undergraduate students at Wright State are classified by the hours they're earned at the university and any accepted transfer credit in the following manner:

**Freshman** 0-44 hours

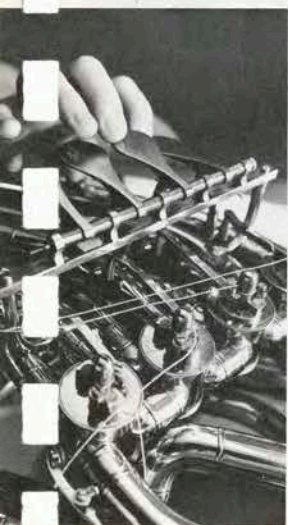
**Sophomore** 45-89 hours

**Junior** 90-135 hours

**Senior** 136 hours or more

Before you graduate, you must submit an application for a degree. The university has established the following filing periods for submitting applications: if your anticipated completion date is December, the filing period is September 1 to October 1; for an anticipated completion date of March, the filing period is December 1 to January 15; for an anticipated completion in June, the filing period is February 1 to March 1; if you plan to complete degree requirements in August, the filing period is March 1 to April 1 if you intend to participate in June





commencement exercises; otherwise, the deadline is June 1. If your degree requirements are not completed in time, you must file another application for a later completion date.

Students who complete their degree requirements in June receive their diplomas at the June commencement. Those who complete requirements during other quarters will have their diplomas sent to them.

Undergraduate students who compile outstanding academic records are recognized at commencement. Honors are based on the following: Summa Cum Laude recognizes a cumulative grade point average of at least 3.8; Magna Cum Laude, a cumulative grade point average of at least 3.6; and Cum Laude indicates a cumulative grade point average of at least 3.4. To be eligible for graduation with honors, a student must have completed at least ninety hours at Wright State.

### **Scholastic Regulations**

The Academic Council at Wright State has formulated the following regulations and procedures concerning scholarship and advising at the university.

The registrar takes action placing a student on warning and/or mandatory advising. Dismissal action is taken by the dean of the student's college or school. Scholastic actions are determined on the basis of quarter hours computed in the Office of the Registrar. Since credit hours for transfer, proficiency, and grades of S, P, and I aren't used in computing quarter and cumulative averages, they are not considered in determining scholastic action.

A student carrying nine or more credit hours in any quarter is subject to scholastic action. A student carrying fewer than nine credit hours is subject to scholastic action at the close of the quarter in which the total credit hours completed or attempted reaches or exceeds twelve and then at the completion of each quarter thereafter in which a similar twelve-hour increment is attained.

A student is placed on warning whenever the quarter grade point average is less than 2.0. A student on warning is continued on warning if either the cumulative or quarter grade point average (but not both) is below 2.0.



When students are placed on warning and are so informed, they are assigned an academic adviser, if they don't already have one, by their college, school, division, or department. It will be recommended to them to seek advice from the adviser as long as they are on warning. It may be recommended to the students to seek counseling and/or remedial assistance, limit the course load and/or the nature of their courses, restrict outside employment, and/or have their course selections approved before registration.

A student on warning is placed on mandatory advising if both the quarter and cumulative averages fall below 2.0. A student will be continued on mandatory advising until both the cumulative and quarter grade point averages are 2.0 or above. Whenever a student brings both the quarter and cumulative averages up to at least 2.0, he or she is removed from both warning and mandatory advising.

A student on mandatory advising status must have course selections approved by the adviser before registering for classes. The adviser's approval will also be necessary for any drop-add transactions. The student may be required to pick up the registration card from the adviser, and may also be limited to a twelve-hour load if the adviser feels such a restriction is necessary. Counseling, remedial work, course repeats, and other steps may be suggested. In addition to working with the adviser, the student will be under review by the department chairman.

A student who has been continued on mandatory advising may be dismissed from the university if it is apparent he or she will not be able to raise the cumulative grade point average to the 2.0 required for graduation. This action may be taken by the student's academic dean in consultation with the chairman of the student's major department and the student's adviser.

At the end of each quarter, deficiency points will be calculated by the registrar for all students on mandatory advising. Deficiency points are defined as the number of points a student would need in order to raise the cumulative point hour ratio to 2.0. A student with a point hour ratio greater than 2.0 is said to have no deficiency points. Deficiency points are calculated by subtracting the number of points earned from twice the number of credit hours attempted for the grades A, B, C, D, F, or X.

Students on mandatory advising will be advised in writing by their college of their deficiency points and the conditions that they must meet to remain at the university.

Notice of dismissal from the university will be sent directly to the student by the dean of the college or school in which the student is registered.

A student who has been dismissed will not be permitted to enroll for any courses at the university for a period of one year, and until he or she has been reinstated by a college or the University Division.

A student must submit a written request for reinstatement. Readmission is not automatic. A student may petition to waive the last three quarters of the dismissal period. Petition forms may be obtained from and submitted through the student's college or the University Division. The petition is reviewed by the College Petitions Committee. A student whose petition is approved is continued on mandatory advising.

A student who is reinstated following an academic dismissal is subject to any special requirements which may be determined appropriate by the dean of the college in consultation with the faculty.





## Financial Aid

The Office of Financial Aid assists students as much as funds allow. Often, a student with great financial need receives assistance through a combination of scholarships, grants, loans, and employment earnings. If you need assistance, it's to your advantage to meet with a financial aid staff member to arrange for the most appropriate financial aid package.

Three types of grants available to undergraduate students at Wright State are the Basic Educational Opportunity Grant (BEOG), the Ohio Instructional Grant (OIG), and the Supplemental Educational Opportunity Grant (SEOG). These grants are administered by the Office of Financial Aid and do not need to be repaid. The special application forms which are required for the BEOG and the OIG are available from your high school guidance counselor or from any university financial aid office. Students will be considered for the SEOG on the basis of data in the Wright State Financial Aid Application and the appropriate financial statement—the Parents' Confidential Statement (PCS) or Student's Financial Statement (SFS).

Many Wright State students work to finance part of their education. The Financial Aid Office employment service helps students to find part-time work on and off campus through the federally funded College Work-Study Program and the regular student payroll. Students must demonstrate a financial need to qualify for the work-study program. Interested students should file the appropriate financial statement (PCS or SFS). Any student may work on the regular payroll provided that he or she is taking at least six credit hours. All student employees may work no more than twenty hours per week while classes are in session and up to forty hours per week during vacation periods.

Students enrolled for six or more credit hours may apply for National Direct Student Loans by submitting the Wright State Financial Aid

Application and the appropriate financial statement (PCS or SFS). Repayment begins following graduation or termination of at least half-time attendance. There are cancellation provisions of up to one hundred percent of the loan for certain teaching fields.

So everyone who wishes to receive a Supplemental Educational Opportunity Grant (SEOG), College Work-Study Award, or a National Direct Student Loan, must complete the Wright State University Financial Aid Application and the Parents' Confidential Statement or Student's Financial Statement, both available from the Office of Financial Aid.

Financial assistance is granted on a three-quarter basis and renewal requests must be made each year, accompanied by an up-to-date financial statement. The university continues aid as long as you have a financial need and you maintain satisfactory grades. Applications and financial statements should be submitted before July 1 for the following academic year, but you should apply well in advance of that date to have a better chance of receiving the maximum amount of aid for which you qualify.

The university has established a short-term loan fund to help students in school-related emergencies. Students may borrow up to \$150 per quarter for fees or up to \$50 per quarter for books and personal expenses. To qualify, a student must have at least a 2.0 cumulative grade point average, have attended Wright State before the loan request, and have a parent, guardian, or spouse cosign the loan.

There are also loans from private foundations, trust funds, and other resources available with varying qualifications and repayment schedules. Information regarding programs in specific areas of study such as nursing and law enforcement can be obtained from the Office of Financial Aid.





Wright State University Foundation scholarships are awarded solely on the basis of academic excellence, potential, and leadership, to qualified incoming freshmen, transfer students, continuing undergraduates, and graduate students. Scholarships are outright gifts and do not need to be repaid. Special application forms for scholarships are available in the Office of Financial Aid.

Veterans and their dependents should check with the Veterans Affairs Office to determine benefits to which they are entitled. Tutorial assistance is available to students who are receiving benefits under Chapter 31 (vocational rehabilitation) and 34 (regular G.I. Bill benefits). Assistance is given to vocational rehabilitation students according to need while Chapter 34 benefits are limited to a maximum of \$60 per month with a total maximum payment of \$720 throughout the entitlement period.

### Fees

The quarterly schedule of classes gives fee deadlines for early registration. If you don't register early, your fees will be due at the time you register. Fees should be paid by check or money order to Wright State University for the exact amount due and sent to the attention of the Bursar's Office. A refund schedule can be found in the quarterly class schedule.

Students who are nonresidents of Ohio must pay a nonresident fee in addition to other fees and charges.

The following general rules, established by the University Board of Trustees, determines who can be considered an Ohio resident and cites specific exceptions to the general rules.

Persons in the following categories are classified as residents of the State of Ohio for subsidy and tuition surcharge purposes:

1. Dependent students, at least one of whose parents or legal guardian has been a resident of the State of Ohio for all other legal purposes for twelve consecutive months or more immediately preceding the enrollment of the student in an institution of higher education.
2. Persons who have resided in Ohio for all other legal purposes for at least twelve consecutive months preceding their enrollment in an institution of higher education and who are not receiving, and have not directly or indirectly received in the preceding twelve consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.
3. Persons who reside and are gainfully employed on a full-time or part-time and self-sustaining

basis in Ohio and who are pursuing a part-time program of instruction at an institution of higher education.

Specific exceptions and circumstances include:

1. A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.
2. A person who enters active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of that person's domicile.
3. Any alien who holds an immigration visa shall be considered a resident of the State of Ohio for state subsidy and tuition surcharge purposes in the same manner as any other student.
4. No person who holds a student or other temporary visa shall be eligible for Ohio residency for these purposes.
5. A dependent person classified as a resident of Ohio who is enrolled in an institution of higher education when his or her parents or legal guardian remove their residency from the State of Ohio shall be considered a resident of Ohio for these purposes during continuous full-time enrollment and until his or her completion of any one academic degree program.
6. Any person once classified as a nonresident, upon the completion of twelve consecutive months of residency in Ohio for all other legal purposes, may apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes. Should this person present clear and convincing proof that no part of his or her financial support is or in the preceding twelve consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, this person shall be reclassified as a resident. The institution may require, among other things, the submission of information regarding the sources of a student's actual financial support to that end.
7. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of the reclassification.

Fee schedules are subject to change depending on action by the state legislature and approval by the Ohio Board of Regents and the University Board of Trustees. The quarterly fees we have listed here for the main campus, Western Ohio Branch Campus, and Piqua Resident Credit Center are those in effect when this catalog went to press. For an up-to-date list, you should consult the Office of the Registrar.



<b>Quarterly Fees for Undergraduate Students</b>	<b>Main Campus</b>	<b>WOBC</b>	<b>Piqua Center</b>
<i>1 through 10 hours/per hour</i>			
Instruction and General fee	26	24	23
Nonresident tuition/add to above	27	27	27
Total: Ohio resident	26	24	23
Total: Nonresident	53	51	50
<i>10.5 through 14 hours</i>			
Instruction fee	220	220	220
General fee	50	25	11
Nonresident tuition/add to above	300	300	300
Total: Ohio resident	270	245	231
Total: Nonresident	570	545	531
<i>14.5 through 18 hours*</i>			
Instruction fee	225	225	225
General fee	50	25	11
Nonresident tuition/add to above	300	300	300
Total: Ohio resident	275	250	236
Total: Nonresident	575	550	536

\*The part-time fee will apply to all hours in excess of 18.

#### **Additional Fees and Charges**

Mass Registration fee/continuing students	15
Late Registration fee/all students	25
Nondegree application fee	10
Audit fee/per credit hour (laboratory and special courses not open to audit)	same as for credit courses
WOBC only/per credit hour	10
Drop fee	10
Charge for persons taking courses under Educational Benefits Policy or with Registration Fee Certificate/per credit hour	7
Transcript fee/first request each additional at same time 50¢	2
Undergraduate and graduate degree application and certification application fee	25
Returned check penalty/per check	15
Applied music fee	
one half hour lesson per week	35
one hour lesson per week	70
Proficiency Test/per credit hour	5
Graduation fee	10

Library fines are set by the dean of the University Library with approval of the executive vice-president and provost.

Everyone who parks a vehicle on campus is required to either purchase a decal or park in a metered space. Parking fees and decal information are given in the quarterly schedule of classes.







# Degree Requirements





The university has several requirements which must be met by every candidate for a bachelor's degree, including: a minimum of 183 hours of credit in approved courses; earn a cumulative average of 2.0 or better; complete the General Education requirements; and fulfill the university's on-campus credit regulations. In addition, a student must meet the requirements of his or her college or school and department.

Students must meet the graduation requirements current at the time they enter the university or choose a subsequent set of requirements which become effective while they are pursuing studies at Wright State.

The residence requirements which must be met to receive a baccalaureate degree from Wright State include: a minimum of forty-five hours of course work at Wright State; at least fifteen of the last forty-five hours of credit must be taken at Wright State; and a minimum of thirty hours of courses numbered 300 or above are to be taken at the university.

A person who holds a baccalaureate degree from an accredited institution, including Wright State, who wishes to earn a second baccalaureate degree at Wright State, must satisfy the requirements of the department and college from which the second degree is to be received. At least forty-five hours of course work are to be taken at Wright State, twenty-three of which must be in courses numbered 300 and above. These forty-five hours are in addition to the minimum 183 required for the first degree.

### General Education Requirements

Students are required to complete fourteen General Education courses before they graduate. These courses are arranged in three areas: English composition; laboratory science; and social science and humanities. A student's total General Education hours vary usually from forty-five to fifty-one.

When courses required for the major or related field are also General Education requirements, a student's major department has the option of allowing the student to use those courses to satisfy both requirements simultaneously.

Specific requirements and departmentally approved offerings are given in the following chart. Many of these requirements are sequences—sets of courses which must be taken in numerical order. To get credit for any one course in a sequence, the student must complete *all* courses in that sequence since the material of the courses is closely related and a course by itself is not very meaningful. Exceptions to course sequences are indicated in the chart. Students should check the description of each course before enrolling to determine if there are prerequisites.

### Degrees and Areas of Study

Wright State grants these associate and baccalaureate degrees: Associate of Arts; Associate of Applied Business; Associate of Applied Science; Bachelor of Arts; Bachelor of Fine Arts; Bachelor of Music; Bachelor of Science; Bachelor of Science in Business; Bachelor of Science in Education; Bachelor of Science in Medical Technology; and Bachelor of Science in Nursing.

The fields of study in which Wright State offers course work leading to a baccalaureate degree follow.

### College of Business and Administration

Accountancy  
Business Economics  
Finance  
International Business  
Management  
Marketing  
Office Administration  
Quantitative Business Analysis

### Area One

Two courses in English composition to be taken in sequence and completed no later than the end of the sophomore year.

#### Courses

ENG 111 and 112

### Area Two

Three-course sequence to be chosen from one of the following laboratory sciences: biology, chemistry, geology, physics, or physical science.

#### Courses

BIO 111, 112, and 113 or 114

CHM 101, 102, and 103 for students with no previous chemistry experience; or

CHM 121, 122, and 141 for students with some chemistry background. Other chemistry combinations arranged with departmental guidance, excluding CHM 319, 488, and 499.

GL 101, 102 (or GL 151, 152), and 103. GL 201 or 203 may be substituted for GL 103.

PHY 121, 122, and 123, or PHY 111, 112, and 113, or another higher one-year sequence except PHY 150, 151, and 152.

ED 241, 242, 243 (physical science sequence open only to elementary education majors)



## College of Education

- Art Education
- Biological Sciences-Education
- Business Education with Shorthand
- Business Education without Shorthand
- Chemistry-Education
- Distributive Education
- Early Childhood Education
- Earth Science-Education
- \* Economics-Education
- Educational Media
- Elementary Education
- Elementary Health
- Elementary and Mentally Retarded Education
- English-Education
- \* General Science-Education
- \* Geography Education
- \* Health Education
- History-Education
- \* Latin-Education
- Mathematics-Education
- Modern Languages (French, German, Spanish)-Education
- \* Physical Education
- Physics-Education
- \* Political Science-Education
- Rehabilitation Education
- Social Studies Comprehensive Education
- \* Sociology-Education
- Special Education (Mentally Retarded and Learning Disabilities)
- Speech and Theatre-Education
- \* Second teaching field only.

Communication  
Disorders

## College of Liberal Arts

- |                       |                                       |
|-----------------------|---------------------------------------|
| Anthropology          | Music                                 |
| Art                   | Music-Education                       |
| Classical Humanities  | Philosophy                            |
| Dance                 | Political Science                     |
| Economics             | Religion                              |
| English               | Social Work                           |
| Environmental Studies | Sociology                             |
| French                | Spanish                               |
| Geography             | Speech Communication                  |
| German                | <del>Speech and Hearing Science</del> |
| Greek                 | Theatre Arts                          |
| History               | Urban Studies                         |
| Latin                 | Selected Studies                      |
| Motion Pictures       |                                       |

## College of Science and Engineering

- |                       |                           |
|-----------------------|---------------------------|
| Biological Sciences   | Geophysics                |
| Chemistry             | Human Factors Engineering |
| Computer Science      | Mathematics               |
| Engineering Geology   | Medical Technology        |
| Engineering Physics   | Physics                   |
| Environmental Health  | Psychology                |
| Environmental Studies | Systems Engineering       |
| Geology               |                           |

## School of Nursing

- Nursing

Materials and Science  
Engineering

**Area Three** Nine courses required. Groups A and B each require a minimum of three courses and a minimum of nine hours. You may select courses from more than one department in each group and you may take from three to six courses in one group and the rest in another group.

### Group A

Three courses (nine hours) minimum. All geography, history, and political science courses are suitable and have no sequence requirements.

#### Courses

- EC 201, 202, and 203 (sequence)  
GEO 101, 102, 103, 230, and 271 recommended  
HST 111, 112, 113; any three of HST 120, 121, 122, 123; HST 131, 132, 133; HST 142, 143, 144; HST 211, 214, 215 (all recommended combinations)  
PLS 110, 112, 113, 122, 123 (introductory courses) are acceptable. Advanced courses require nine hours of social science, but instructor may waive this requirement.  
PSY 111 and 112  
PSY 111, 112, ED 202, 203 (sequence for educational majors only). In special cases, ED 201 may replace PSY 111, 112.  
SOC 111, 112, and 221 or ATH 140, 141, 142, are recommended sequences.  
URS 211 recommended

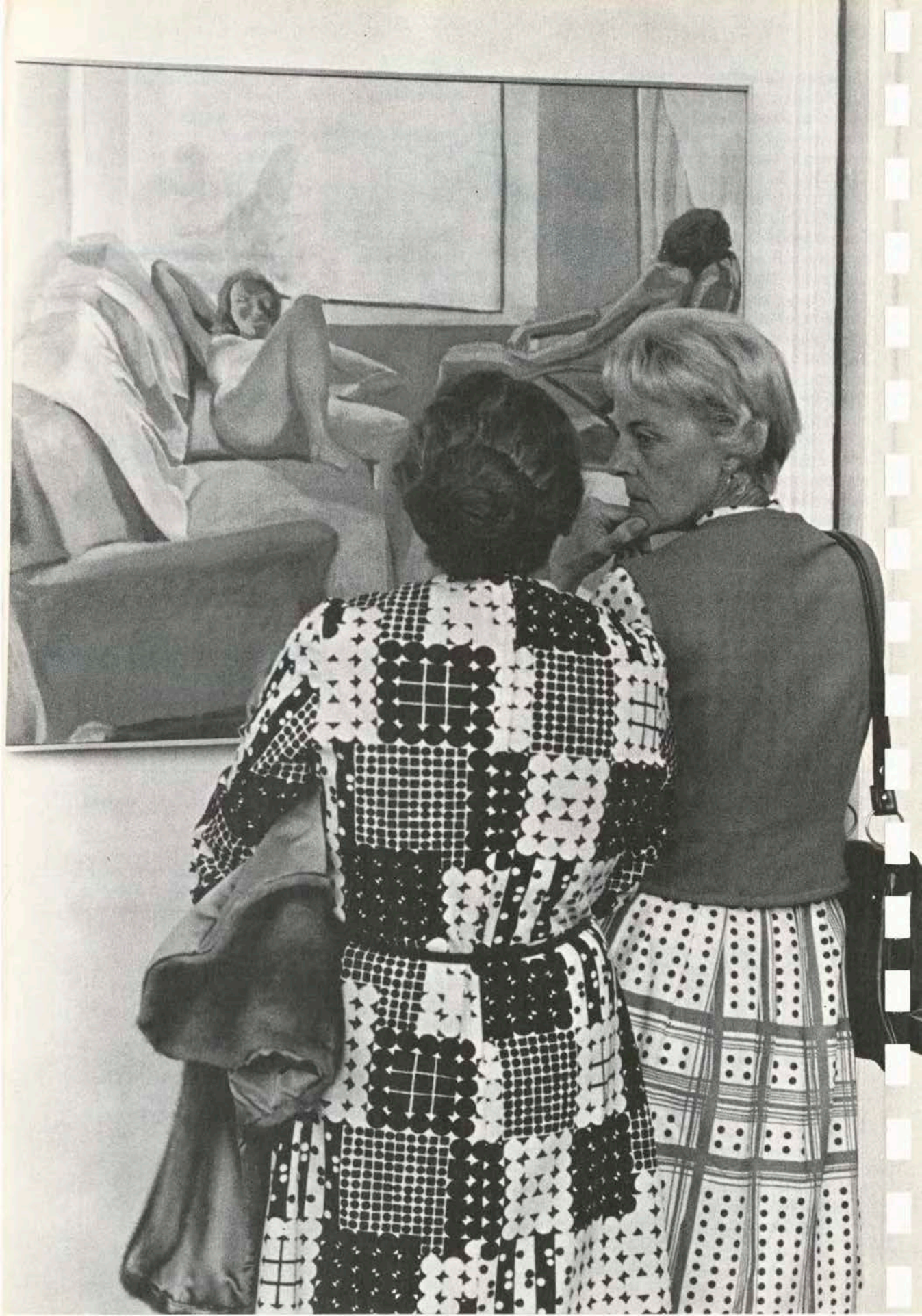
### Group B

Three courses (nine hours) minimum. All courses in classical humanities, philosophy, religion, speech (except SPC 121, 125, 127) and theatre are suitable and have no sequence requirements.

#### Courses

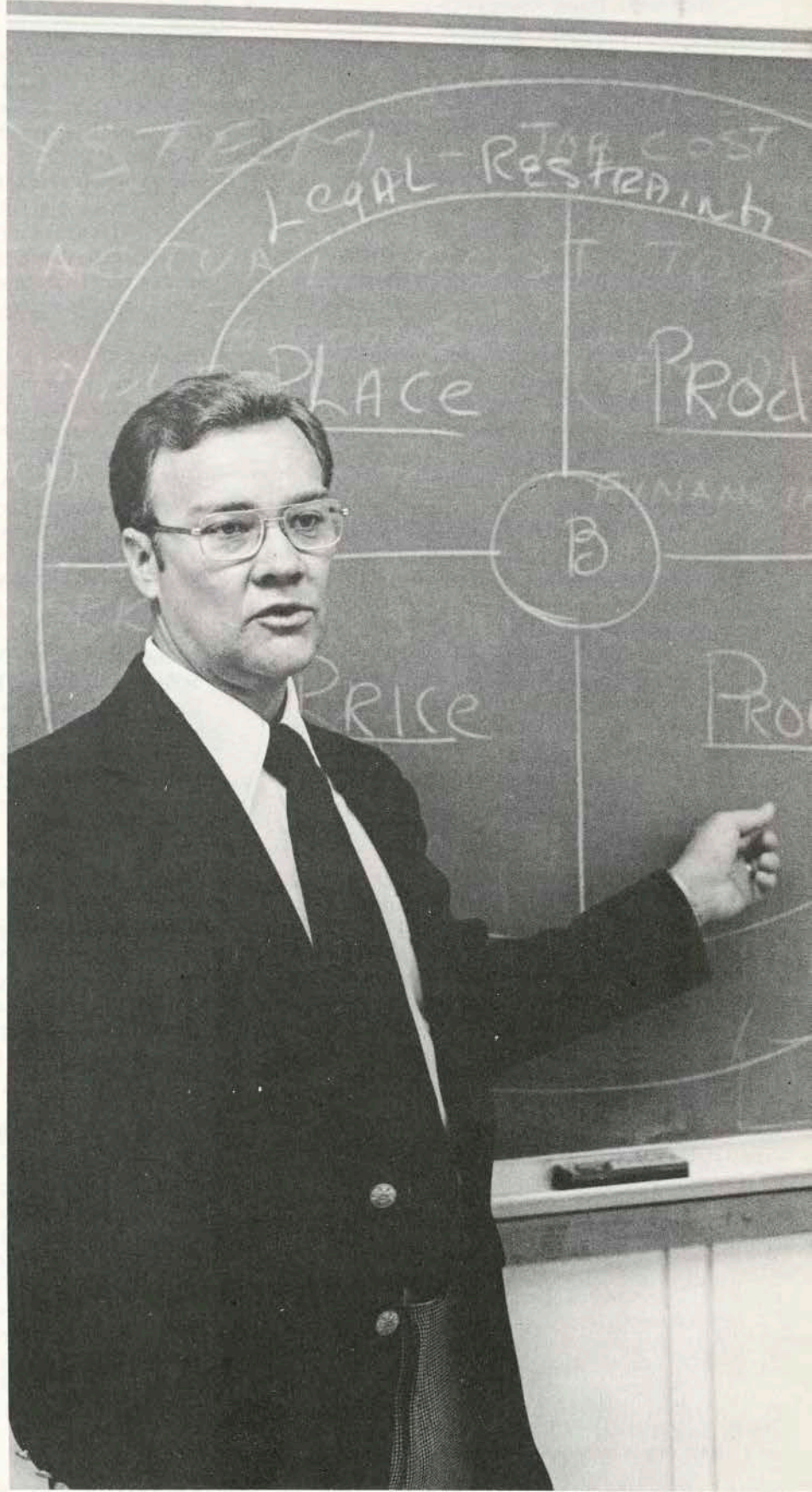
- ART 101, 102, 103; ART 141, 142, 143; ART 442  
CLS 111, 112, 113 recommended. Also courses above 300 level in Greek and Latin.  
ENG 190, 201, 202, 203, 204, 205 recommended.  
Courses may be repeated for credit under variable titles.  
ML 111, 112, 113, 114; ML 211, 212, 213, 214, 215; CPL 201, 202, 203 recommended. Also acceptable: FR 301, 302, 303; GER 301, 302, 303; SPN 301, 302, 303  
MUS 111, 112, 113, 114 recommended (for nonmusic majors only)  
PHL 111, 112, 113, 115, 123, 124 recommended  
REL 110, 111, 112 recommended, but any religion courses may be selected  
SPC 101, 102, 111, 133, 141 recommended  
TH 101, 102, 131, 180, 203, 360, 361, 362, 370 recommended







# College of Business and Administration





**Sam Barone** Dean

**Gordon K. Constable** Acting Associate Dean

**Thomas O. Dovel** Assistant Dean

**Ruth L. Bell** Academic Adviser

**Chairman** /Department

**Donald F. Klein** Accountancy

**Rust Gray** Administrative Sciences and Finance

**To be named** Economics

**Thomas Von der Embse** Management

**Peter S. Carusone** Marketing

The College of Business and Administration has as its primary objective the development of qualified business professionals. This objective is met by insuring a knowledge of basic business functions, by providing the foundation for continuing self-development, by educating students to be aware of the businessperson's responsibilities in the political, social, and economic order of society, and by increasing the student's capacity for adjustment to the rapidly changing conditions of the business world.

The College of Business and Administration offers a broad curriculum leading to a Bachelor of Science in Business degree with majors in accountancy, business economics, finance, management, marketing, quantitative business analysis, and office administration.

Graduate study is available to qualified students through a program which leads to the Master of Business Administration. The program has been designed for persons holding baccalaureate degrees either in business administration or in other areas. Persons who are employed full time may complete a program on a part-time basis by taking courses offered in the evening or in a special Saturday M.B.A. sequence.

A second graduate program leading to a Master of Science degree is offered in social and applied economics. This program stresses the practical application of social science theory. The program includes an internship which integrates experience with a multidisciplinary instructional base. For information on the master's programs, see the graduate catalog.

## Admission

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All students who wish to seek a degree in business administration should apply to the director of admissions, Wright State University. Freshman students and those transfer students with less than thirty-six quarter hours will be admitted to the University Division as prebusiness majors. When applying, students should indicate their preferred majors in the college, if known. Transfer students to the university with thirty-six quarter hours or more will be admitted directly into the college, depending on their academic qualifications. Details on transfer credit, grade point averages, and admission to the college are outlined below.

### Transfer Credit

The college reserves the right to limit the number of transfer hours applied toward the degree. Credits earned in junior or community colleges will normally apply only to the requirements of the freshman and sophomore years. Transfer credit from nonregionally accredited institutions will not apply toward the degree. Students should consult with the academic adviser from the College of Business and Administration to determine which courses will apply toward the degree.

### Admission from the University Division or Other Colleges at Wright State

The student must have at least thirty-six quarter hours and have a 2.0 cumulative grade point average and must have completed a math course at the level of MTH 130 or higher (if only MTH 130 was taken, a grade of C is necessary for admission).

### Admission from Other Universities and Colleges

Freshman transfer students must complete at least twelve quarter hours in the University Division and comply with the requirements listed above. Nonfreshman transfer students must have a 2.0 cumulative grade point average or have been out of school for at least two years.

## Degree Requirements

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Candidates for the Bachelor of Science in Business degree must fulfill the university General Education requirement during the freshman and sophomore years. All students will take a basic core of courses, regardless of their major, and in addition are expected to complete the sequence of required professional courses, professional electives, and nonprofessional electives as set forth in the appropriate program. Professional elective courses may be selected from offerings of the Departments



of Accountancy, Administrative Sciences and Finance, Economics, Management, and Marketing. Nonprofessional electives must be selected from departments of the university other than those in the College of Business and Administration. At least forty percent of the work applied toward the degree must be outside the business college.

The last forty-five hours of course work, with minor exceptions, must be taken at Wright State University. All students must complete a total of 187 hours of acceptable academic work with at least a 2.0 cumulative average. In some cases a student may find it necessary to earn more than 187 credit hours to complete the requirements of the program under which he or she seeks to graduate.

In many cases a student may, in addition to the major field of study, concentrate the professional electives for a minor in another business discipline. For those students wishing to combine business with areas outside the College of Business and Administration, a dual major program has been developed.

**Dual Major Program**

Students wishing to combine a business background with a discipline outside the College of Business and Administration may elect a dual major curriculum consisting of the common body of knowledge for all business majors, plus four advanced courses in business. The dual major is designed to give the student a broad background in business and contains all the prerequisite courses for the Master of Business Administration degree.

Students wishing to combine two majors within the college must meet all requirements for both majors.

**Business Minor**

Students majoring in accountancy, economics, finance, management, or marketing may choose another business field as a minor. Minor fields of study are available in accountancy, economics, finance, quantitative business analysis, and marketing. In some cases, it may be necessary to exceed the 187 hours required for graduation. Specific course requirements are available in the office of the academic adviser. Business minors are available to business majors only.

**Required Courses For All Majors in Business and Administration**

All students in business and administration must complete the following requirements in addition to the requirements listed below under each major program.

**Bachelor of Science in Business Degree**

<i>General Education Requirement</i>	<b>38</b>
<i>Professional Business Core</i>	<b>80-81</b>
ADM 101, 103, 350, 482	12
MTH 130, 158	6
QBA 201, 302, 303, 304	12
ACC 201, 202, 203	9
EC 201, 202, 203; 301 or 315 or 317	12-13
ENG 331	4
FIN 301, 302	6
MGT 301, 302, 303, 481	13
MKT 301, 302	6

**Accountancy**

Professors Eiteman, Pabst, Klein (chairman)  
Associate Professors Castellano, Roehm, Throckmorton  
Assistant Professors Campbell, Kreiser, Talbott  
Instructors Fehrenbach, Picciano, Rebenstorf

Students who elect to major in accountancy may prepare themselves for a variety of careers in this area of concentration as well as fulfilling the education requirements for taking the Certified Public Accountant (C.P.A.) examination in the State of Ohio. This major also provides an excellent undergraduate background for a degree in law. While only one general program is offered, the careful selection of electives under the guidance of the student's faculty adviser leads to a variety of career preparations. An optional accounting internship program (ACC 481) is available for qualified students.

Transfer students who major in accountancy should note that at least eighteen quarter hours of their accountancy courses must be taken at Wright State.



## **Bachelor of Science in Business Degree**

Accountancy

*Required General Education and*

*Business Core*

**118-119**

*Required Major Courses*

**39**

ACC 304, 305, 306, 321, 322, 331

18

ACC 411, 421, 499

9

ACC 332, 407, 412, 422, 431 (choose two)

6

FIN 303

3

ADM 351 or 352

3

*Professional Electives*

**9-12**

*Nonprofessional Electives*

**18-21**

**Total**

**187**

## **Administration**

Chairman Gray

Associate Professors Hartmann, McGarth, Myron (WOBC)

Assistant Professors W. Evans, Wagley

Although there is no formal major in the area of administration, all students in the college are required to take course work in business and society, business law, and business and government.

The department offers majors in finance, international business, office administration, and quantitative business analysis. The programs in finance, office administration, and quantitative business analysis are described in detail and listed alphabetically in this section.

## **Business-Education**

See the College of Education.

## **Economics**

Professors Anon, Fabrycy, Treacy

Associate Professors Blake, Chao, Renas

Assistant Professors Evans, Germer (adjunct),

Kader(WOBC), Kumar, Maris, Premus, Renas,

Weinstein, Whippen

Economics is a broad discipline. As the oldest of the social and business sciences it historically has been concerned with the great question of how to improve man's standard of living. Most problems of interest to economists are encountered daily. Leaders in all levels of government are concerned with taxation, ecology, world trade, poverty, and economic planning. Businessmen face problems of increasing productivity, satisfying public needs, and innovating for growth. Unions strive for jobs, incomes, and better conditions of work. All citizens

are affected by inflation, equality of opportunity, and the very structure of the economic system itself.

A variety of students major in economics. Some are primarily socially-politically oriented. Others seek careers in business, finance, or government. Still others are interested in teaching and research.

Graduates in economics will find that the breadth of their background and the rigor of their training will allow them to compete favorably in the job market or to gain entrance to a wide variety of graduate programs in addition to economics. An advanced degree in economics is normally required to find employment as a professional economist.

Students with a major in business economics must take a minimum of forty-two credit hours in economics in addition to the basic business core required of all candidates for the Bachelor of Science in Business degree. Students should check with their faculty adviser for selection of electives to best represent their major interest.

## **Bachelor of Science in Business Degree**

Business Economics

*Required General Education and*

*Business Core (includes EC 201, 202, 203)*

**115**

*Required Major Courses*

**33**

EC 315, 316, 317, 480

15

Economics Electives

18

*Professional Electives*

**9**

*Nonprofessional Electives*

**30**

**Total**

**187**

## **Finance**

Professor Dolphin

Associate Professors Ahmad, Bacon, Goulet, Gray (chairman), Hemmer

Assistant Professor Williams

The finance major has been designed to give students a core of courses that will introduce them to all aspects of the theory and practice of finance. Within this major there is flexibility to enable the student to pursue one or more of the following





## Management

Professors Barone, Lanford, MacKinney, Murray, Nicholson, Von der Embse (chairman)  
Associate Professors Constable, Daily, Imundo, Myron (WOBC), Schrickel, Stickney, Waggener  
Assistant Professor Athanasopoulos

The management major has been designed to provide a broad background in all aspects of the discipline. Those students specifically interested in production management or manpower and industrial relations should consult with their faculty adviser for selection of electives that best represent their area of concentration. All management majors are encouraged to take PSY 111 and 112 during the freshman or sophomore year.

The student's combination of elective courses can be determined in consultation with his or her faculty adviser. Detailed program forms can be obtained from the adviser or the department office. These forms specify the courses in the three optional areas of the concentration in management: (1) production management; (2) general management; (3) personnel and industrial relations.

### Bachelor of Science in Business Degree

#### Management

#### *Required General Education and Business Core*

**118-119**

#### *Required Major Courses*

**15**

MGT 411, 412, 421

12

ACC 300

3

#### *Elective Courses for Areas of Concentration*

**15-19**

A total of five courses, consisting of:

Two or three of the following courses

(depending upon option):

6-10

MGT 414, 415, 422, 423, 431, 432, 433, 434

Two or three of the following courses:

6-10

ACC 322

QBA 420, 421, 430, 431

EC 351, 352, 401, 454

MKT 471

MTH 224, 225

PSY 301, 306, 307

SOC 441

#### *Professional Electives*

**15-18**

#### *Nonprofessional Electives*

**19-24**

#### **Total**

**187**

areas of concentration: financial management, investment management and analysis, management of financial institutions, real estate, insurance, and general finance. Students should check with their faculty advisers for selection of electives that best represent their major interests. For example, required courses for a finance major with a concentration in investments:

### Bachelor of Science in Business Degree

#### Finance

#### *Required General Education and Business Core*

**118-119**

#### *Required Major Courses*

**27-28**

FIN 303, 353, 401, 402, 411, 462

18

ACC 308, 309

6

EC 317 or 402 or 480

3-4

#### *Professional Electives*

**13-14**

#### *Nonprofessional Electives*

**28**

#### **Total**

**187**

### Insurance

See Finance.

### International Business

The major in international business consists of appropriate courses in the fields of marketing, economics, finance, geography, political science, history, anthropology, and sociology. Courses from some, but not necessarily all, these areas are to be selected with the guidance and approval of the department chairman.



## Marketing

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Professors Brown, Carusone (chairman), Kegerreis, Sims  
Associate Professors Dovel, Myron (WOBC), Wise  
Assistant Professor McCarty

The marketing major, in addition to meeting university requirements and completing the professional business core, must take a marketing core consisting of eight additional courses. Careful selection of electives may allow the student an informal specialization in such areas as retail management, sales management, advertising, small business management, marketing research, industrial marketing, international marketing, or physical distribution management.

### Bachelor of Science in Business Degree

Marketing

<i>Required General Education and Business Core</i>	<b>118-119</b>
<i>Required Major Courses</i>	<b>24</b>
MKT 303, 405, 441, 451, 492	15
Any three additional marketing major courses	9
<i>Professional Electives</i>	<b>17-18</b>
<i>Nonprofessional Electives</i>	<b>27</b>
<b>Total</b>	<b>187</b>

### Office Administration

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Chairman Gray  
Professor Tilton

The major in office administration prepares a student to enter a professional career in office supervisory positions.

### Bachelor of Science in Business Degree

Office Administration

<i>Required General Education and Business Core</i>	<b>118-119</b>
<i>Required Major Courses</i>	<b>27</b>
OA 203, 212 or 213, 301, 305, 411	15
ADM 351 or 352	3
MGT 411, 412	6
SPC 131	3
<i>Professional Electives</i>	<b>12</b>
<i>Nonprofessional Electives</i>	<b>30</b>
<b>Total</b>	<b>187</b>

## Quantitative Business Analysis

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Chairman Gray  
Associate Professors Cleary, Cox, Haessler, Lai  
Assistant Professors Amsden, Demmy, Kader  
WOBC  
Instructor Blakely

The major in quantitative business analysis provides training in quantitative methods that have proven useful in attacking a wide variety of organizational planning and control problems. The main focus is the development and application of quantitative techniques that can be of assistance to the modern manager. Some of the areas covered include operations research, statistics, and computer applications to business problems. Each student will choose either a dual major or a twelve-hour area of concentration in the field of accountancy, computer science, economics, finance, management, or marketing. In addition, MTH 224-225 or MTH 132-133 will be taken in lieu of the normal mathematics requirements of the College of Business and Administration.

### Bachelor of Science in Business Degree

Quantitative Business Analysis

<i>Required General Education and Business Core</i>	<b>115</b>
<i>Required Major Courses</i>	<b>44</b>
QBA 320, 321, 440, 441, 452, 430, 431, 491	24
CS 141, 142, and three other advanced CS courses	20
<i>Professional Electives</i>	<b>12</b>
<i>Nonprofessional Electives</i>	<b>16</b>
<b>Total</b>	<b>187</b>

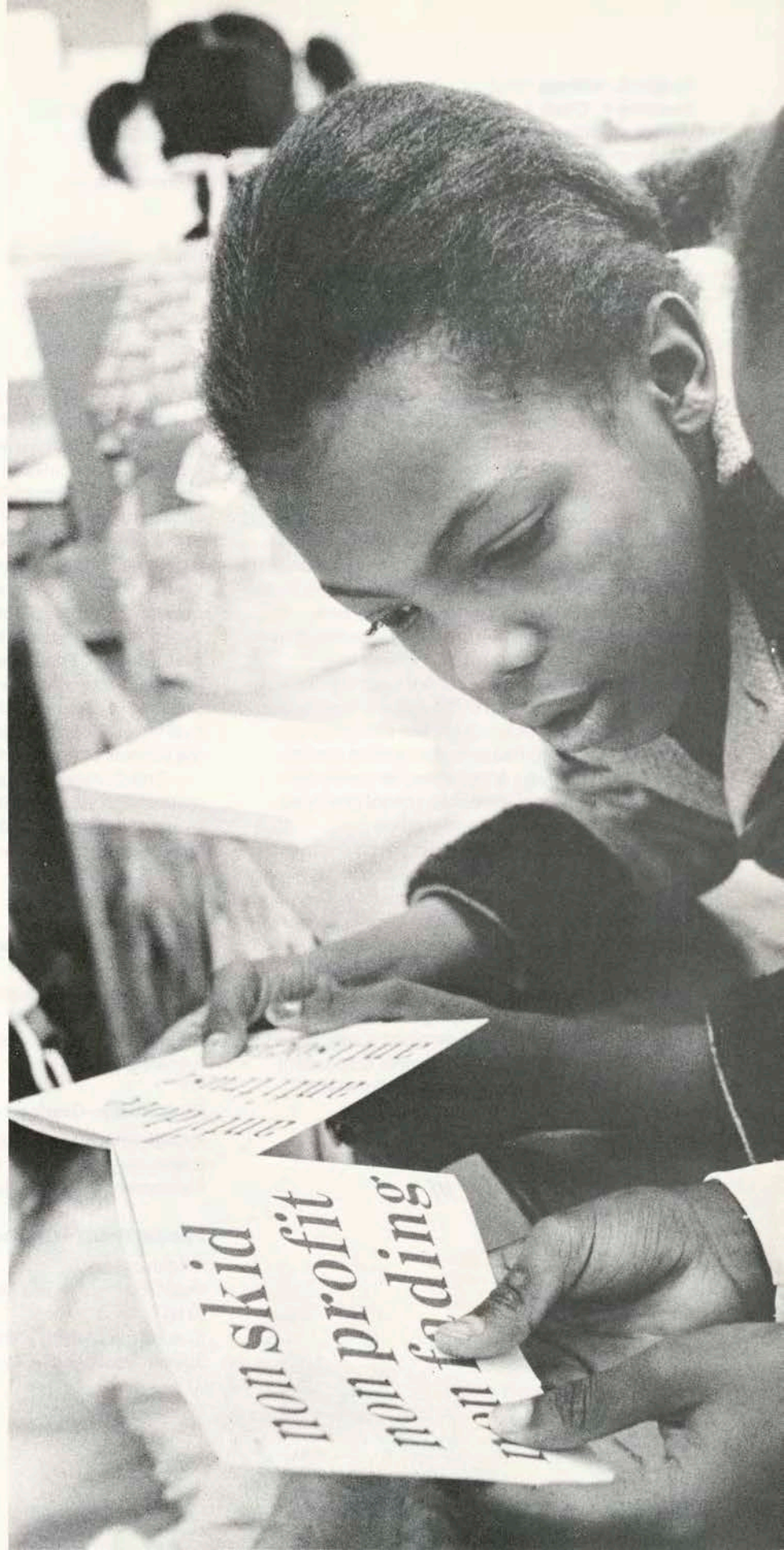
### Real Estate

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See Finance.



# College of Education





**Roger G. Iddings** Dean

**Beatrice F. Chait** Associate Dean and Director, Division of Teacher Education

**James A. Dillehay** Associate Dean and Director, Division of Educational Leadership and Human Services

**Roger G. Iddings** Acting Director, Division of Library and Communication Science

**Hal D. Gaddis** Assistant Dean

**Thomas Matczynski** Director, Graduate Studies in Education

**William Collie** Coordinator, Student Services

**Alice Swinger** Coordinator, Laboratory Experiences

**Ruth Sizer** Administrative Assistant to the Dean

**Priscilla Bolds, Sally Evans, Eunice McCune** Teacher Certification Advisers

Wright State University recognizes the preparation of teachers, educational leaders, and professionals in human services as primary functions. The College of Education assumes responsibility for furthering the objectives of the university in these areas of concern. A variety of programs is offered by the college through its Divisions of Teacher Education, Educational Leadership and Human Services, and Library and Communication Science. Both undergraduate and graduate programs leading to certification by the Ohio Department of Education in primary, elementary, special education, and secondary school teaching fields are offered. The Division of Educational Leadership and Human Services is concerned with programs preparing both certified and noncertified leaders for public and private schools and for community agencies. These include public school principals, curriculum supervisors, central office administrative specialists, school psychologists, school guidance counselors, personnel counselors, and rehabilitation specialists. The Bachelor of Science in Education degree is offered. Graduate degrees include the Master of Arts, Master of Education, and Master of Science in Personnel Counseling.

Degree programs include general education, an intensive study of an academic or a specialized professional area, and a professional component that integrates theoretical considerations with clinically based practicum experiences.

In addition to regular degree programs, the College of Education offers both credit and noncredit special courses and workshops for community educational personnel. Throughout its history, the College of Education has maintained a close working relationship with the public schools of the area. Cooperative efforts through the teacher education laboratory centers facilitate inservice and preservice teacher education by providing a variety of theoretical and clinical experiences for students. Frequent involvement of the College of Education faculty in the schools of the area and the advice and planning assistance of public school personnel serve to improve both the teacher education programs and the programs of the schools of the community.

The College of Education meets the certification standards of and has been approved by the Ohio State Board of Education and is a member of the American Association of Colleges for Teacher Education.

### **Undergraduate Programs**

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The College of Education offers four-year curricula leading to the Bachelor of Science in Education degree and Ohio teacher certification in the following fields:

#### **Elementary—Grades 1–8**

Kindergarten (see Validation below)

Elementary Education (1–8)

Elementary and Mentally Retarded Education

#### **Special Fields—Grades 1–12**

Art Education

Music Education (see Music, College of Liberal Arts)

Special Education—Mentally Retarded

Special Education—Learning Disabilities



## Secondary—Grades 7–12

### Major Teaching Fields

Biological Sciences  
Business Comprehensive  
Chemistry  
Distributive Education  
Earth Science  
English  
History  
Mathematics  
Modern Languages (French, German, Spanish)  
Physics  
Social Studies Comprehensive  
Speech and Theatre

### Second Teaching Fields (Must Be Coupled with Major Teaching Field)

Art Education	Latin
Biological Sciences	Mathematics
Chemistry	Modern Languages
Distributive Education	Physical Education
Earth Science	Physics
Economics	Political Science
Educational Media	Sociology
English	Special Education—
General Science	Mentally Retarded
Geography	Special Education—
Health Education	Learning Disabilities
History	Speech and Theatre

### Validation of Standard Teaching Certificates

Curricula are available to validate standard teaching certificates in the following areas:

*Driver Education:* The holder of a standard teacher's certificate may have that certificate validated for teaching driver education upon the completion of ED 423, 427, 428 (three hours each).

*Educational Media (Elementary School):* The holder of standard elementary teacher's certificate may have that certificate validated for teaching educational media in the elementary school upon the completion of the Educational Media concentration.

*Kindergarten:* The holder of a standard elementary teacher's certificate may have that certificate validated for teaching kindergarten by completing the Early Childhood Education concentration.

*Orthopedically Handicapped:* A person who holds a standard special education certificate may have that certificate validated for teaching the orthopedically handicapped by completing the special education concentration, ED 739 and ED 458 in an appropriate setting. (See a special education adviser for assistance.)

*Physical Education (Elementary School):* The holder of a standard elementary teacher's certificate may have that certificate validated for teaching physical education in the elementary school upon the completion of the Physical Education concentration.

*Reading:* The holder of a standard elementary or secondary teacher's certificate may have that certificate validated for teaching reading upon the completion of the Language Arts—Reading concentration.

*Visual Arts:* The holder of a standard elementary teacher's certificate may have that certificate validated for teaching visual arts upon the completion of the Visual Arts concentration.

*Vocational Office Education:* The holder of a standard secondary business education certificate may have that certificate validated for teaching intensive office education and cooperative office education. To qualify for intensive office education a student must complete ED 408 (three hours) and have a minimum of one year of full-time work in an office. To qualify for cooperative office education a student must complete ED 407 (three hours), have a minimum of one year of full-time work in an office, and one year of teaching experience.

### Rehabilitation Education

The College of Education also offers a four-year curriculum leading to a Bachelor of Science degree with a major in rehabilitation education. This program prepares students to work with the disabled and disadvantaged, but does not include teacher certification.

### Advising

Upon admission to the College of Education, each student is assigned an adviser. Students are expected to have an initial conference with their advisers to review their academic programs. Students are strongly encouraged to see their advisers whenever they have questions concerning their programs, specific courses or course sequences, or their professional goals. Any deviation from the specified curriculum should be discussed in detail with the adviser before it is undertaken. An undergraduate education guidebook is provided for each student. This book should be studied carefully and kept with all academic records.



## Admission and Retention Standards

The admission and retention policy and practices of the College of Education are based upon the following principle, which is supported by the Ohio Laws and Regulations of the State Board of Education and the National Council for Accreditation of Teacher Education.

"Because there are skills, understandings, and personal characteristics unique to teaching, students seeking admission to programs in teacher education must meet requirements in addition to those generally prescribed for enrollment in the university. While academic performance is a major determinant of effective teaching, it is not the only one. Colleges of education have the right and obligation to consider personal factors as well as academic achievement as a basis for admission and retention of a student in its professional education programs."

### Admission

Students applying for admission to the College of Education must meet the minimum requirement of a 2.0 grade point average on all academic work and have completed thirty-six quarter hours. All students are required to enroll in Education 119, Externship in the Public Schools, which offers the student a first-hand classroom experience, an opportunity for self-evaluation in terms of ability to relate to children, and an opportunity for further exploration of interests in the teaching profession.

### Retention

In order to serve the best interests of children, the College of Education follows a policy of selective retention and advising of its applicants. Since the student is in a professional degree program, the college has certain criteria the student must meet at various stages leading to recommendation for certification and graduation. No student will be admitted or retained who has serious physical or emotional disabilities, speech impediments, chronic poor health, or limited mobility which may, in the judgment of the faculty, impair effective performance of professional duties. Recommendation for certification may be withheld for any student who does not meet acceptable criteria. The observations and professional judgment of the faculty serve as the basis for decision in this matter.

## Transfer Students

Students transferring from other institutions or from other colleges of Wright State University must meet the same standards for admission to the College of Education detailed above, including the 2.0 grade point average and the completion of thirty-six quarter hours (or equivalent) of college credit.

## Degree Requirements

The Bachelor of Science in Education degree is earned by College of Education students completing teacher preparatory programs. It is granted only to students qualifying for a teaching certificate. The program leading to the Bachelor of Science in Education with a major in rehabilitation education prepares students to work with the disabled and disadvantaged, but does not lead to a teaching certificate.

For graduation with a Bachelor of Science in Education and Ohio certification, the following are required:

### General Requirements for Elementary, Secondary, and Rehabilitation Education

- 1 Completion of a minimum of 192 credit hours (which may include six hours of college service physical education).
- 2 Fulfillment of university General Education requirements.
- 3 An overall cumulative grade point average of 2.0 or higher.
- 4 Satisfactory completion of all required professional laboratory experiences.





## Specific Requirements

### *Elementary Education*

(preparation for teaching in elementary grades)

- 1 General Requirements listed above.
- 2 Of the 192 credit hours required for graduation, a minimum of forty-five quarter hours in professional education.
- 3 Completion of prescribed pattern of courses including a minimum of one approved area of concentration (see program descriptions on subsequent pages).

### *Secondary Education*

(preparation to teach academic subjects in grades 7–12)

- 1 General Requirements listed above.
- 2 Of the 192 credit hours required for graduation, a minimum of thirty-two hours in professional education.
- 3 Completion of appropriate speech and mathematics requirements.
- 4 Fulfillment of requirements established in one or more major teaching fields.
- 5 Cumulative grade point average of 2.25 in each teaching field.

A student may have a major and one or more second teaching fields, two majors, or a comprehensive field. The student is strongly advised to prepare in at least two teaching fields or a comprehensive field. A student who has taken the curriculum and materials course in the major field is not required to take a comparable course in other fields but may do so. If the two fields are unrelated, a second curriculum and materials course may be required. The College of Education considers the minimum requirements for a second field inadequate for effective teaching except on an emergency basis unless supported by a closely related field. Therefore, a student should choose closely related supporting fields or plan to take more than the minimum work in the second fields.

### *Rehabilitation Education*

(preparation for work with disabled and disadvantaged)

- 1 General Requirements listed above.
- 2 Completion of prescribed pattern of courses. This program does not include teacher certification.

## Recommendation for Certification

Every teacher in Ohio public schools is required to have a certificate covering the field(s) in which he or she is teaching. This certificate is issued by the Ohio Department of Education upon the recommendation of the College of Education. Students may apply for certification in the College of Education office of teacher certification advisers during the last quarter of their professional programs.

### **Certification of Students from Other Colleges Within the University**

Students who receive degrees from other colleges within the university may also wish to obtain teaching certificates. They will be recommended for certification only upon satisfactory completion of all of the requirements of the College of Education. These include admission, selective retention, the major teaching field and related requirements, the preprofessional and professional courses included in the secondary education programs listed on subsequent pages, and the minimum of 192 quarter hours. At the beginning of the junior year, students from other colleges who are seeking certification should review their programs with a teacher certification adviser and make application to the certification program.

### **Certification for Holders of Nonprofessional Degrees**

Students who are graduates of other accredited colleges or universities may be recommended for certification upon satisfactory completion of the general, major, and professional courses required for the teaching field(s) in which they seek certification. Certification candidates are urged to have their records evaluated and their programs planned by a teacher certification adviser upon application to the college.

### **Certification for School Nurses**

The requirements for a provisional school nurse's certificate are a bachelor's degree from an approved institution, a current license as a registered nurse in the State of Ohio, and successful completion of the prescribed program of thirty-five to thirty-eight hours of professional education. Registered nurses who do not hold a bachelor's degree may complete degree and certification requirements concurrently.

### **Retraining Program for Conversion from Secondary to Elementary Certification**

Holders of standard Ohio secondary or special teaching certificates may qualify for the retraining elementary provisional certificate. The retraining certificate is valid for four years and may be



converted upon its termination to a standard provisional elementary certificate with the completion of specified additional course work in areas required for elementary certification.

The following courses are required for conversion from secondary to elementary certification:

<i>Elementary School Curriculum</i>	3
ED 440 or ED 712*	
<i>Language Arts, Reading, including Children's Lit.</i>	9
ED 315, 316, 317	
<i>Math (prerequisite: MTH 343, 344)</i>	3
ED 318	
<i>Child Development</i>	3
ED 403 or 603*	
<b>Total</b>	<b>18</b>

For conversion of a retraining certificate to a standard certificate, the following course work must be completed.

<i>Visual Art</i>	3
AED 231	
<i>English and Communication Arts</i>	11
ENG 342, ENG 497, SPC 125	
<i>Health and Physical Education</i>	3
HPR 281	
<i>Mathematics</i>	8
MTH 343, 344	
<i>Music</i>	3
MUS 165	
<i>Science</i>	12
BIO 111, 112, 114	
ED 241, 242, 243	
<i>Social Studies</i>	8-9
HST 111, 112, 113	
PLS 110, 112, 113	
GEO 101, 102, 103	
HST 121, 122, 123	

\*if admitted to graduate school

## College of Education Faculty

### Art Education

Professor Barlow

Assistant Professor O'Boyle

Instructors Crowe, Owen, Shatsby, Vaughn

### Education

Professors Bireley, Chait, Dillehay, Hoehn, Huckins, Iddings, Milheim, Silverman, Uphoff (WOBC), Zwetschke

Adjunct Professor Sava

Associate Professors Apt, Badaczewski, Benner, Clark, Dittmar, Earl, J. Emanuel, Frey, Gaddis, Graham, Matczynski, Stuckman (WOBC), Tea, Tilton, Wade

Adjunct Associate Professors Engebretson, Willis  
Assistant Professors Ballantine, Campbell (WOBC), Chance, Cobb, Collie, Custenborder, (WOBC), Gatton (PRCC), Hall, Heeren, Hutchcraft, King, Marable, Payne, Richards, Schultz, Schumacher, Starks, Walters, White, Winklejohn

Adjunct Assistant Professors M. Emanuel, Germer, Johnson (WOBC), Koch, Lyon, Shearer  
Instructors Brown, Camealy, Clingner, Fernandez, Goins, Jenkins, Loschert, Leonard, Sturm, Swinger, Wietzel

### Health, Physical Education, and Recreation

Assistant Professor McPeak

Instructors Frederick, Jefford

Adjunct Instructors Dexter, Knight, Peck

### Library and Communication Science

Assistant Professors Schmalberg, Wittorf

Instructor Mathies

## Course Sequences

Because of the sequential character of many courses and the prerequisites needed in both the professional and academic components of education degree programs, students are strongly urged to consult an adviser before registering.

### Art Education

Upon graduation, the art education major is certified to teach art to kindergarten through grade twelve. Philosophy and methodology courses and numerous studio/craft courses help prepare the student for teaching at all levels. Student teaching in art and additional clinical situations are included in the program. Graduate courses are also offered in art education.



## Bachelor of Science in Education Degree

### Art Education

<i>Professional Education Requirements</i>	<b>34–37</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 422, 429	15–18
ED 440, 464	6
AED 330**	4
<i>Related Requirements</i>	<b>12</b>
PSY 111, 112 (Gen. Ed., Area Three A—two courses)	6
MTH 127 or 304*	3
SPC 101	3
<i>Art Education Major Requirements</i>	<b>79</b>
ART 201, 202, 203, 221	16
AED 114, 214, 224, 226 or 427, 332, 411, 331 or 431, 432, 441	30
Art History (three courses, Area Three B)	9
AED—one course in metals	3
AED—one course in fabrics or fibers	3
AED or ART advised electives	18
<i>Additional General Education Requirements</i>	<b>26</b>
Area One	8
Area Two	12
Area Three A or B	6
<i>Electives</i>	<b>38–41</b>
<b>Total</b>	<b>192</b>

\*May be waived with proficiency examination.

\*\*Participation experiences required.

### Art Education as a Second Teaching Field

Forty-seven credit hours are required for art education as a second teaching field. Required: ART 201, 221; three hours of art history; AED 114, 214, 226 or 427, 332, 331 or 432, 441, 330; one course in each of the following: fibers or fabrics, metal, and clay; and one major elective.

## Biological Sciences-Education

The biological sciences education program prepares students to teach biology, chemistry, and general science. The concentration in biology provides greater depth in that area by encompassing all the departmental core courses, including cell biology, genetics, microbiology, developmental biology, animal biology, and plant biology. The program also includes basic and supporting courses in chemistry and physics, related course work in mathematics and/or other areas of science, and the professional education courses required of all candidates for secondary school certification.

## Bachelor of Science in Education Degree

### Biological Sciences Education

<i>Professional Education Requirements</i>	<b>38–41</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 329	2
ED 431**	3
ED 422, 429	15–18
ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>15</b>
PSY 111, 112 (Gen. Ed., Area Three A—two courses)	6
Mathematics*	3
SPC 101, 102	6

\*May be waived with proficiency examination.

\*\*Participation experiences required.

<i>Biology Concentration Requirements</i>	<b>101</b>
BIO 111, 112, 202	13
BIO 204, 205 or 206, 302	15
BIO 303, 403, 307 or 402	16
CHM 121, 122, 141	13.5
CHM 211, 212, 213, 215, 216, 217	18
PHY 111, 112, 113, 101, 102, 103	13.5
GL 101, 102, 103	12
<i>Additional General Education Requirements</i>	<b>23</b>
Area One	8
Area Three A or B	6
Area Three B	9
<i>Electives</i>	<b>12–15</b>
<b>Total</b>	<b>192</b>

### Biological Sciences-Education as a Second Teaching Field

Thirty-two quarter hours in biology are required for biological sciences as a second teaching field. Required courses are BIO 111, 112, 114, 202, 302, 303 and one of the following: BIO 204, 205 or 206; and CHM 121, 122, 141.



## Business Education

Business education offers two majors that lead to the Bachelor of Science in Education degree and state certification. The comprehensive with shorthand major leads to certification in all areas of secondary business education. These areas include shorthand, typing, bookkeeping, general business, business law, economics, salesmanship, and other commonly taught business education subjects. The comprehensive without shorthand major includes all the content areas in the comprehensive program except shorthand.

### Bachelor of Science in Education Degree

Business Education Comprehensive with Shorthand

<i>Professional Education Requirements</i>	<b>44-47</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 433**, 434, 435, 436	11
ED 422, 429	15-18
ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>12</b>
PSY 111, 112 (Gen. Ed. Area Three A—two courses)	6
SPC 101, 102	6
<i>Comprehensive Business Major Requirements</i>	<b>77</b>
ACC 201, 202, 203, 231	12
ADM 101, 102, 103, 350, 351, 352	18
EC 201, 202, 203 (Gen. Ed., Area Three A)	9
ENG 331	4
MTH 127; MKT 301, 336, and 441 or 461	12
OA 202, 203, 212, 213, 301, 305, 411	22
<i>Additional General Education Requirements</i>	<b>29</b>
Area One	8
Area Two	12
Area Three B	9
<i>Electives</i> (second field suggested)	<b>27-30</b>
<b>Total</b>	<b>192</b>

\*\*Participation experiences required.

### Bachelor of Science in Education Degree

Business Education Comprehensive without Shorthand

<i>Professional Education Requirements</i>	<b>41-44</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 433**, 434, 436	8
ED 422, 429	15-18
ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>12</b>
PSY 111, 112 (Gen. Ed., Area Three A)	6
SPC 101, 102	6
<i>Basic Business Major Requirements</i>	<b>73</b>
ACC 201, 202, 203, 231	12
ADM 101, 102, 103, 350, 351, 352	18
EC 201, 202, 203 (Gen. Ed., Area Three A)	9
ENG 331	4
MKT 301, 336, 441, 461; MTH 127	15
OA 212, 213, 305	9
Electives chosen from accountancy, business, economics, marketing, or office administration	6
<i>Additional General Education Requirements</i>	<b>29</b>
Area One	8
Area Two	12
Area Three B	9
<i>Electives</i> (second field suggested)	<b>34-37</b>
<b>Total</b>	<b>192</b>

\*\*Participation experiences required.

## Chemistry-Education

The chemistry education program prepares students to teach chemistry and general science in the secondary school. The concentration in chemistry provides a strong preparation in that science with courses in general, organic, analytical, and physical chemistry. The program includes basic and supporting courses in biology, physics, and earth science and the professional education courses required of all candidates for secondary school certification. Students are strongly advised to complete at least one second teaching field in biological sciences or earth science or physics in addition to the basic program in chemistry.

### Bachelor of Science in Education Degree

Chemistry Education

<i>Professional Education Requirements</i>	<b>38-41</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 329	2
ED 431**	3
ED 422, 429	15-18



ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>12</b>
PSY 111, 112 (Gen. Ed., Area Three A—two courses)	6
SPC 101, 102	6
<i>Chemistry Concentration Requirements</i>	<b>98–99.5</b>
CHM 121, 122, 141	13.5
CHM 211, 212, 213, 215, 216, 217	18
CHM 451, 452	6
CHM 453 and 455 or CHM 312	6–7.5
BIO 111, 112, 114	12
GL 101, 102	8
PHY 240, 241, 242; 200, 201, 202	19.5
MTH 132, 133, 134	15
<i>Additional General Education Requirements</i>	<b>23</b>
Area One	8
Area Three A or B	6
Area Three B	9
<i>Electives</i>	<b>16.5–21</b>
<b>Total</b>	<b>192</b>

\*\*Participation experiences required.

### Chemistry-Education as a Second Teaching Field

Thirty-one and one-half credit hours are required for chemistry as a second teaching field. Required courses are CHM 121, 122, 141, and CHM 211, 212, 213, 215, 216, 217.

### Distributive Education

Upon completion of a distributive education program, the student is eligible for a provisional vocational certificate for teaching in the area of distributive education.

### Bachelor of Science in Education Degree

Distributive Education	
<i>Professional Education Requirements</i>	<b>49–60</b>
ED 119	3
ED 202, 203	6
ED 406	3
ED 437**	3
ED 438	3
ED 481	3
ED 425	3
ED 422, 429	15–18
Practicum (may be waived with two years of approved work experience)	1–9
ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>12</b>
PSY 111, 112	6
SPC 101, 102	6

<i>Distributive Education Requirements</i>	<b>70</b>
ACC 201, 202	6
ADM 350	3
EC 201, 202; 301; 351	12
ENG 331	4
MGT 301, 302; 411, 412	12
MKT 301, 302, 303; 336	12
MKT 401, 411, 421, 441, 461, 471	18
MTH 127	3
<i>Additional General Education Requirements</i>	<b>29</b>
ENG 111, 112	8
Area Two	12
Area Three B	9
<i>Electives</i>	<b>21–32</b>
(Recommended: ACC 203, EC 203)	
<b>Total</b>	<b>192</b>

\*\*Participation experiences required.

### Distributive Education as a Second Teaching Field

Required courses for distributive education as a second teaching field are ED 406, 425, 437, 438, 481, and a practicum or two years of approved work experience plus: ACC 201; ADM 350; EC 201, 202, 301, 351; ENG 331; MGT 301, 411; MKT 301, 303, 336, 401, 441, 461.

### Earth Science-Education

The earth science program prepares students to teach earth science and general science in the secondary school. The concentration in earth science provides intensive preparation in that area with courses in mineralogy, structural geology, and invertebrate paleontology. The program also includes basic and supporting courses in biology, chemistry, and physics, related course work in geography, and the professional education courses required of all candidates for secondary school certification. Students are strongly advised to complete at least one second teaching field in biology or chemistry or physics in addition to the basic program in earth science.



## Bachelor of Science in Education Degree

### Earth Science Education

<i>Professional Education Requirements</i>	<b>38–42</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 329	2
ED 431**	3
ED 422, 429	15–18
ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>15</b>
PSY 111, 112 (Gen. Ed., Area Three A—two courses)	6
Mathematics*	3
SPC 101, 102	6
<i>Earth Science Concentration Requirements</i>	<b>92</b>
GL 101, 102, 103 (Gen. Ed., Area Two)	12
GL 203, 305, 311, 430, 431, 433	28
GEO 101, 102, 334 (Gen. Ed., Area Three A—three courses)	9
BIO 111, 112, 114	12
CHM 121, 122, 141	13.5
PHY 111, 112, 113, 123, 101, 102, 103	17.5
<i>Additional General Education Electives</i>	<b>17</b>
Area One	8
Area Three B	9
<i>Electives</i>	<b>27–30</b>
<b>Total</b>	<b>192</b>

\*May be waived with proficiency examination.

\*\*Participation experiences required.

### Earth Science Education as a Second Teaching Field

Thirty-three and one-half credit hours minimum are required for earth science as a second teaching field. Required courses are GL 101, 102, 103, 203, 430, 431; GEO 101, 334.

## Economics-Education

Economics education may be chosen as a second teaching field only. (See Social Studies Education for the major teaching field requirements in this area.) To be recommended for Ohio Provisional Certification in this teaching field, a student must also have completed the program of a related major teaching field. Forty-five quarter hours are required, including thirty quarter hours in economics and fifteen hours in other social sciences.

## Educational Media (Library Science-Education)

Library science education may be elected as a second teaching field only. Thirty credit hours are required, including LCS 311, 312, 313, 413, 435, 449, 482, and ED 420 or 421.

## Elementary Education

The minimum requirement for graduation with the Bachelor of Science in Education degree and Ohio certification in elementary education is 192 credit hours (which may include six hours of college service physical education) and a cumulative grade point average of 2.0 or better. A minimum of forty-five hours of professional education and at least one area of concentration are required within the 192 hours.

Concentrations, which provide an opportunity for a student to develop competence in a specific area of the elementary curriculum, are available in the following subjects:

early childhood—kindergarten\*\*\*

educational media\*\*\*

health education

history

humanities

language arts-reading\*\*\*

mathematics

physical education\*\*\*

science

social studies

special education—mentally retarded\*\*\*

special education—learning disabilities\*\*\*

visual arts\*\*\*

\*\*\*A standard elementary certificate may be validated for teaching these areas in the elementary school.

## Bachelor of Science in Education Degree

### Elementary Education

<i>Professional Education Requirements*</i>	<b>51–54</b>
ED 119	3
ED 202, 203	6
ED 311, 315**, 316**, 317**, 318**, 417**	18
ED 419 and 422	15–18
ED 403, 440, 464	9



<i>Related Course Requirements</i>	<b>74</b>
(includes General Education requirement)	
AED 231, 331	6
BIO 111 or 112 (recommended), 114, 301	13
ED 241, 242, 243	9
ENG 111, 112, 342, 497	16
HPR 281	3
MTH 343, 344	8
MUS 165, 365	7
PSY 111, 112	6
SPC 103, 125	6
<i>Social Studies Requirements</i>	<b>27-29</b>
Choose one of the following plans:	
Plan A: Two courses selected from HST 121, 122, 123 (122 and 123 are recommended)	6
HST 111 or 112 or 113 or PLS 112	3-4
HST 131 or 132 or 133 or 211	3
GEO 101, 102, 103 (choose two)	6
SOC 111, 112	6
EC 300	3
Plan B: Two courses selected from HST 111, 112, 113 or PLS 112, 113 (HST 112, 113 recommended)	6-8
HST 121 or 122 or 123	3
HST 131 or 132 or 133 or 211	3
GEO 101, 102, 103 (choose two)	6
SOC 111, 112	6
EC 300	3
<i>Additional General Education Requirements</i>	<b>6</b>
Area Three B—two courses	6
<i>Electives and Concentration</i>	<b>29-34</b>
<b>Total</b>	<b>192</b>

\*See alternative program in elementary education.

†Participation experiences required.

### Visual Arts Concentration

<i>Required Courses</i>	
AED 114, 223, 226 or 427, 224, 332, 441, 330	24
One of the following:	3
AED 420, 421, 423, 424, 426, 443	
<b>Total</b>	<b>27</b>

### Early Childhood Education Concentration

<i>Required Courses</i>	
ED 411, 412, 414, 312	15
SPC 421 or TH 370	3
<b>Total</b>	<b>18</b>

### Educational Media Concentration

<i>Required Courses</i>	
LCS 311, 312, 313, 412, 435, 449	24
LCS 481 (usually included as part of student teaching)	4
ED 421 or 420	3
<b>Total</b>	<b>31</b>

### Elementary Health Concentration

BIO 370	3
HPR 230	5
HPR 240	2
HPR 330	4
HPR 380	5
HPR 440	4
HPR 260*	3
<b>Total</b>	<b>26</b>

\*May be waived with proficiency examination.

### History Concentration

In addition to the social sciences courses taken to fulfill elementary education requirements, students should select courses as follows:

<i>Recommended Courses</i>	
HST 218 or 219	3
HST 300	3
Two courses from any American history sequence at 200 level or above	6
Two courses from any European history sequence at 200 level or above	6
One non-Western history course (Far Eastern, African, Byzantine, Latin American)	3
<b>Total</b>	<b>21</b>

### Humanities Concentration

Choose a total of twenty quarter hours with at least one course each from four of the following areas:

<i>Area One</i>	
ART 141, 142, 143	3
AED 114	4
AED 441	3
One art education studio/crafts course	3
<i>Area Two</i>	
ENG 190, 201	3
ENG 202, 203	4
<i>Area Three</i>	
LCS 412	4
LCS 414	3



#### Area Four

CPL 201, 202, 203

CLS 320

#### Area Five

MUS 111, 112

MUS 101, 102, 103 (must be taken in sequence)

One music performance course

#### Area Six

REL 111, 112, 361, 430, 471

PHL 111, 112, 113, 301, 302, 303

PHL 312

#### Area Seven

TH 101, 102, 220, 370, 131, 180

#### Total

4  
3  
3  
3  
3  
1-4  
3  
3  
3-4  
3  
20

### Language Arts-Reading Concentration

#### Required Courses

ED 455, 456, 415, 432, 420 or 421

TH 370

#### Total

15  
3  
18

### Mathematics Concentration

#### Required Courses

ED 413

ED 418

ED 470 and/or 370

Two of the following:

MTH 127, 130, 131, 164, 345 (strongly recommended)

#### Total

3  
3  
3-4  
6-7  
15-17

### Physical Education Concentration

#### Required Courses

HPR 233, 235, 241, 242, 260, 350, 351, 381, 450, 461, 480

Students should take BIO 111, 112, 114, 301 to complete this concentration; this exceeds the basic elementary education requirements in biology.

#### Total

32  
32

### Science Concentration

#### Required Courses

ED 311

Any four of the following not previously taken to fulfill elementary education major requirements in science:

CHM 101, 121

GL 101, 102, 103

PHY 121, 122

Biology elective

#### Total

3  
16-17  
19-20

### Social Studies Concentration

In addition to the social sciences courses taken to fulfill elementary education requirements, students should select courses as follows:

#### Required Courses

One history course

Two geography courses from the following:

GEO 101, 102, 103, 262, 271, 370

Two political science or economics courses

from the following:

PLS 110, 112, 113

EC 201, 202, 203

Sociology/anthropology courses (recommended for the concentration):

ATH 140 and SOC 444

In addition, social studies concentration students are urged to meet some of the General Education Area Three B requirements by selecting one or more courses from REL 110, 111, 112.

#### Total

3  
6  
6-8  
6  
21-23

### Special Education Concentration

#### Educable Mentally Retarded

There are a number of prerequisites for entering special education programs. Please see an adviser in the College of Education before selecting this program.

#### Required Courses

The following sequence must be maintained:

ED 441, 455, 442 (may be taken concurrently)

ED 456, 302, 445 (may be taken concurrently)

ED 458

HPR 461

Laboratory experiences in EMR education required.

#### Total

10  
11  
6  
3  
30

### Special Education Concentration

#### Learning Disabilities

#### Required Courses

ED 441, 455, 442 (may be taken concurrently)

ED 456, 302 (may be taken concurrently)

ED 458

HPR 461

#### Total

10  
8  
6  
3  
27



**Alternative Program in Elementary Education**  
 TEPY (*Teacher Education Professional Year*) is a unified approach to the preparation of elementary teachers and can be taken in the junior year. The professional education areas of language arts, children's literature and reading, mathematics, science, social studies, child development, evaluation, basic teaching skills, and strategies for "mainstreaming" exceptional children are integrated into a team-taught, clinically-oriented, field-based format. The program, which also includes student teaching, the student teaching seminar, and the senior seminar, covers all the professional education courses needed for certification and can be completed in one year. Students interested in the TEPY program should consult a teacher certification adviser early in their program.

**English-Education**

The English education program is intended only for those seeking secondary certification. Departmental requirements are similar to those for the Bachelor of Arts in English, but college requirements differ. Advisers will be assigned in the College of Education; however, all English education majors are welcome to consult the Department of English concerning the major program. It is suggested that students elect the course sequence either in American history (HST 444, 445, 446) or in British history (HST 321, 322, 323), depending on their major interest. Students are advised to consult the department for a list of the 400-level courses that will be offered during a given academic year; these courses are open only to students who have completed twelve hours of 300-level courses.

<b>Bachelor of Science in Education Degree</b>	
English Education	
<i>Professional Education Requirements</i>	<b>38-41</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 329	2
ED 332**	3
ED 432	3
ED 422, 429	15-18
ED 440, 464	6
<i>Related Requirements</i>	<b>15</b>
PSY 111, 112 (Gen. Ed., Area Three A—two courses)	6
MTH 304*	3
SPC 101, 102	6

<i>English Education Major Requirements</i>	<b>52</b>
ENG 203 or CPL 201, 202, or 203	4
ENG 250, 251	8
ENG 341	4
ENG 360 or 480	4
ENG 351 or 352; 353 or 354; 355, 356 or 357 and one other course from this group	16
At least three of the following (each from a different category): ENG 410, 420, 430, 440, 450, 460, 470	12
Elective in composition or linguistics	4
<i>Additional General Education Requirements</i>	<b>26</b>
ENG 111, 112	8
Area Two	12
Area Three A	6
<i>Electives (second or supporting field suggested)</i>	<b>58-61</b>
Recommended: HST 321, 322, 323; or 444, 445, 446	
<b>Total</b>	<b>192</b>

\*May be waived with proficiency examination.  
 \*\*Participation experiences required.

**English-Education as a Second Teaching Field**  
 Forty-five credit hours are required, including ENG 111, 112, ENG 203 (or CPL 201, 202, or 203), 250, 251, 341, 360 or 480; ENG 351 or 352, 353 or 354, 355, 356 or 357; one elective in literature, linguistics, or writing; ED 432.

**General Science-Education**

General science may be elected as a second teaching field only. Required are fifty-four quarter hours, including BIO 111, 112, 113; CHM 121, 122, 141; PHY 111, 112, 113, 101, 102, 103; GL 101, 102, 103.

**Geography-Education**

Geography education may be chosen as a second teaching field only. (See Social Studies Education for the major teaching field requirements in this area.) To be recommended for Ohio Provisional Certification in this teaching field, a student must also have completed the program of a related major teaching field. Forty-five quarter hours are required, including thirty hours in geography and fifteen hours in other social sciences.



## Health Education (Secondary, Grades 7–12)

Health education may be elected as a second teaching field only. These courses are required: BIO 111, 112, 114, 301, 213, 220, and HPR 230, 240, 260, 330, 380, 440. (HPR 380 is prerequisite for student teaching.)

## History-Education

The history education program prepares the student to teach history in the secondary schools. The program requires advanced work in U. S., European, and other history. The student must also complete the requirements of at least one second teaching field in a related social science (economics, geography, political science, or sociology). More than one supporting field is recommended (see Social Studies Education for comprehensive program). Advisers will be assigned in the College of Education; however, students are encouraged to consult an adviser in the Department of History for specific course recommendations.

### Bachelor of Science in Education Degree

#### History Education

<i>Professional Education Requirements</i>	<b>39–42</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 329	2
ED 439**	4
ED 422, 429	15–18
ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>15</b>
PSY 111, 112 (Gen. Ed., Area Three A—two courses)	6
MTH 304*	3
SPC 101, 102	6

\*May be waived with proficiency examination.

\*\*Participation experiences required.

<i>Major Requirements</i>	<b>51</b>
HST 300, 400, 498	7
U. S. history (upper division)	9
European history (upper division)	9
Other history (Canada, Latin America, Asia, Africa)	9
Electives	17
<i>Related Social Science Second Teaching Field</i>	<b>30</b>
Courses to complete the requirements of a second teaching field in one of the following areas: economics, geography, political science, or sociology	
<i>Additional General Education Requirements</i>	<b>29</b>
Area One	8
Area Two	12
Area Three B (REL 110, 111, 112, recommended)	9
Electives	<b>25–28</b>
<b>Total</b>	<b>192</b>

### History-Education as a Second Teaching Field

Forty-five quarter hours of history are required, including at least two advanced courses in each of the following areas: U. S. history, European history, and other history as defined above.

## Latin-Education

Latin education may be elected as a second teaching field only. Thirty quarter hours are required, beginning at the 201 level or above. Remaining hours may be distributed among LAT 351, 353, 355, 357, 451, 453, and 455; these courses are repeatable by number but not by content. Greek, classical humanities, and linguistics courses are recommended.

## Mathematics-Education

The mathematics education program prepares students to teach mathematics in the secondary schools. A student may select either a physics sequence or a computer science sequence to fulfill the mathematics education major requirements.

### Bachelor of Science in Education Degree

#### Mathematics Education

<i>Professional Education Requirements</i>	<b>38–41</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 329	2
ED 338**	3
ED 422, 429	15–18
ED 432	3
ED 440, 464	6



<i>Related Requirements</i>	<b>12</b>
PSY 111, 112 (Gen. Ed., Area Three A—two courses)	6
SPC 101, 102	6
<i>Mathematics Education Major Requirements</i>	<b>68.5–70.5</b>
MTH 132, 133, 134, 255 or equivalent	20
MTH 280, 431, 440, 451, 452, 471	18
MTH 461 or 360	3–5
MTH 441, 442	8
PHY 240, 241, 242 (Gen. Ed., Area Two) or	19.5
CS 141, 142, 152, 300, 301***	20
<i>Additional General Education Requirements</i>	<b>23</b>
Area One	8
Area Three A or B	6
Area Three B	9
<i>Electives (second or supporting field suggested)</i>	<b>45.5–50.5</b>
<b>Total</b>	<b>192</b>

\*Participation experiences required.

\*\*\*Students who elect the computer science sequence must complete a three-course sequence for General Education, Area Two.

### Mathematics Education as a Second Teaching Field

Students who elect mathematics as a second teaching field are required to take a minimum of thirty-two quarter hours of mathematics. MTH 132, 133, 134, 255, 280, 440, 451, and 471 are required.

### Modern Language-Education

A student may prepare to teach French, German, or Spanish in the secondary schools by following one or more of the following programs. Two years of credit in high school language or the equivalent first-year college courses are prerequisite for each program, but are not included in the required hours. In addition to course work, the certification candidate is required to pass an oral proficiency examination.

### Bachelor of Science in Education Degree

Modern Language Education	
<i>Professional Education Requirements</i>	<b>38–41</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three A—two courses)	6
ED 329	2
ED 334**	3
ED 422, 429	15–18
ED 432	3
ED 440, 464	6

<i>Related Requirements</i>	<b>15</b>
PSY 111, 112 (Gen. Ed., Area Three A—two courses)	6
MTH 304*	3
SPC 101, 102	6
<i>Major Requirements (one or more of the following areas)</i>	<b>50–51</b>
French	
FR 201, 202, 203; 301, 302, 303 (Gen. Ed., Area Three B—three courses)	18
FR 321, 322, 323; 341, 342, 343, 361	18
French electives (300- and 400-level courses)	15
German	
GER 201, 202, 203; 301, 302, 303 (Gen. Ed., Area Three B—three courses)	18
GER 321, 322, 323; 341, 342, 343	15
Recommended German electives (300- and 400-level courses)	17
Spanish	
SPN 201, 202, 203; 301, 302, 303 (Gen. Ed., Area Three B—three courses)	18
SPN 321, 322, 323; 331, 332, 333; 341, 342, 343; 361	27
Spanish electives (300- and 400-level courses)	6
<i>Additional General Education Requirements</i>	<b>26</b>
Area One	8
Area Two	12
Area Three A or B	6
<i>Electives (second or supporting teaching fields suggested)</i>	<b>59–63</b>
<b>Total</b>	<b>192</b>

\*May be waived with proficiency examination.

\*\*Participation experiences required.

### Modern Languages as a Second Teaching Field

A minimum of forty-five quarter hours in one language is required. Only in case of second field will first year 101, 102, and 103 be included in the forty-five hours. Following sequence is recommended: 101, 102, 103, 201, 202, 203, 321, 322, 323, 341, 342, 343, 361 (French and Spanish only; German majors need three-hour elective), and six hours of literature.



## Physical Education (Secondary, Grades 7–12)

Physical education may be elected as a second teaching field only. These courses are required: BIO 111, 112, 114, 301, and HPR 241, 242, 260, 340, 350, 381, 480. (HPR 232, 234, 236, 350, 381 are prerequisites for student teaching.) The sport skill component required for certification is being revised. The revised program will be available in the HPR office.

## Physics-Education

The physics education program prepares students to teach physics, integrated physical science, and general science in the secondary school. The concentration in physics provides intensive preparation in that area with courses in modern physics, electricity and magnetism, and analytical mechanics. The program also includes basic and supporting courses in biology, earth science, and chemistry, related course work in mathematics, and the required professional education courses. Students are strongly advised to complete a second teaching field in biological sciences, chemistry, earth science, or mathematics, in addition to the basic program in physics.

### Bachelor of Science in Education Degree

#### Physics Education

<i>Professional Education Requirements</i>	<b>38–41</b>
ED 119	3
ED 202, 203 (Gen Ed.,	
Area Three A—two courses)	6
ED 329	2
ED 431 **	3
ED 422, 429	15–18
ED 432, 440, 464	9
<i>Related Requirements</i>	<b>12</b>
PSY 111, 112 (Gen. Ed.,	
Area Three A—two courses)	6
SPC 101, 102	6
<i>Physics Concentration Requirements</i>	<b>104.5</b>
PHY 240, 241, 242, 200, 201, 202	
(Gen. Ed., Area Two)	19.5
PHY 230, 350, 351, 352	13.5
PHY 314, 371, 372	9
BIO 111, 112, 114	12
CHM 121, 122, 141	13.5
GL 101, 102, 103	12
MTH 132, 133, 134, 233, 255	25
<i>Additional General Education Requirements</i>	<b>23</b>
Area One	8
Area Three A or B	6
Area Three B	9
<i>Electives (MTH 256 recommended)</i>	<b>11.5–14.5</b>
<b>Total</b>	<b>192</b>

\*\*Participation experiences required.

## Physics-Education as a Second Teaching Field

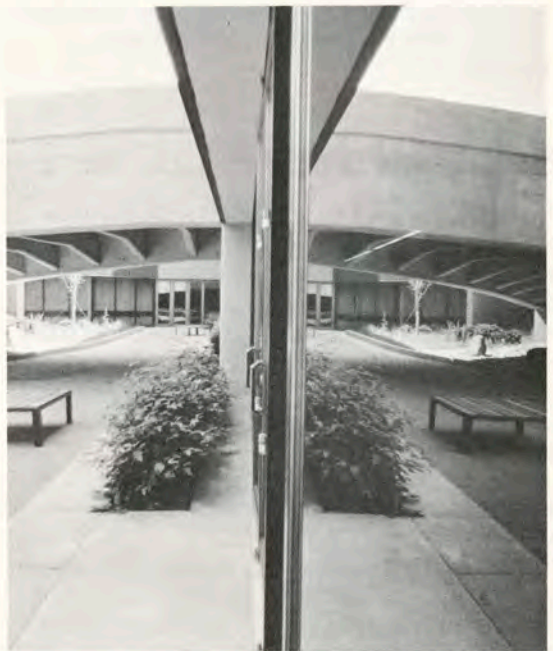
Physics education as a second teaching field requires thirty-three quarter hours including PHY 240, 241, 242, 200, 201, 202, and CHM 121, 122, 141.

## Political Science-Education

Political science may be chosen as a second teaching field only. (See Social Studies Education for the major teaching field requirements in this area.) To be recommended for Ohio Provisional Certification in this teaching field, a student must also have completed the program of a related major teaching field. Forty-five quarter hours are required, including thirty hours in political science and fifteen hours in other social sciences.

## Rehabilitation Education

The major in rehabilitation education prepares students for employment in a variety of settings providing activities related to services for the disabled and disadvantaged. Students are also prepared for entrance into graduate programs in rehabilitation counseling or related areas. The program is flexible and can be individualized to suit the interests of the student.





## Bachelor of Science Degree

Rehabilitation Education	
<i>Professional Course Requirements</i>	<b>47</b>
RHB 270	3
RHB 371, 372, 373, 374	12
ED 445, 461	6
RHB 472, 473, 474, 475, 476	26
<i>Related Requirements</i>	<b>86</b>
Political science, American history, economics, and business	18
Biological sciences (Gen. Ed., Area Two) must include BIO 301	17
Sociology, social work, and anthropology	24
Psychology, must include PSY 307	24
SPC	3
<i>Additional General Education Requirement</i>	<b>17</b>
Area One	8
Area Three B	9
<i>Electives</i>	<b>42</b>
<b>Total</b>	<b>192</b>

## Social Studies-Education

The social studies comprehensive program prepares students to teach integrated social studies and all component areas in which they have at least eighteen quarter hours of course work. The program consists of basic and advanced courses in American history, world history, political science, economics, sociology, and geography, advanced courses in U. S. history and non-U. S. history, and a concentration of advanced courses in one or more social science fields.

## Bachelor of Science in Education Degree

Social Studies Education	
<i>Professional Education Requirements</i>	<b>39-42</b>
ED 119	3
ED 202, 203 (Gen. Ed., Area Three—two courses)	6
ED 329	2
ED 439**	4
ED 422, 429	15-18
ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>15</b>
PSY 111, 112 (Gen. Ed., Area Three—two courses)	6
Mathematics*	3
SPC 101, 102	6

<i>Social Studies Major Requirements</i>	<b>105</b>
Basic sequences as follows:	35
GEO 101, 102, 103	9
PLS 112, 113	8
EC 201, 202, 203	9
SOC 111, 112, ATH 140	9
History	30
HST 300, 400, 498	7
U. S.	6
European	6
Other (Canadian, Lat. Am., Asian, and/or African)	6
Electives	5
At least twenty-two of the thirty hours must be upper division courses.	
Advanced work as follows:	25
Three quarter hours in each of the following: SOC, EC, and GEO	9
Four quarter hours in PLS	4
Twelve quarter hours taken in one of the above subject areas or distributed among the areas to complete eighteen hours in a particular subject area for certification endorsement	12
Electives for a concentration	15
To be selected in one of the above areas	
<i>Additional General Education Requirements</i>	<b>29</b>
Area One	8
Area Two	12
Area Three B (Courses such as the REL 110, 111, 112 sequence are recommended)	9
<i>Electives</i>	<b>1-4</b>
<b>Total</b>	<b>192</b>

\*May be waived with proficiency examination.

\*\*Participation experiences required.

## Sociology-Education

Sociology education may be chosen as a second teaching field only. (See Social Studies Education for the major teaching field requirements in this area.) To be recommended for Ohio Provisional Certification in this teaching field, a student must also have completed the program of a related major teaching field. Forty-five quarter hours are required, including thirty hours in sociology and fifteen hours in other social sciences.

## Special Education

Students can meet Ohio certification requirements in either mental retardation or learning disabilities/behavior disorders. In either case, the basic elementary education program is followed and dual elementary/special education certification is strongly suggested. Secondary education and



noneducation majors may add mental retardation as a certification area by completing the courses listed below. Learning disabilities/behavior disorders requires prior or simultaneous certification in another area of education. Noneducation majors who are interested in this latter area should contact an adviser in special education.

### Mental Retardation Concentration

Follow the elementary education program omitting ED 417 if only special education certification is desired. Add these courses to professional requirements:

ED 441, 455, 442**, 445, 458, 456, 302	27
HPR 461	3

### Learning Disabilities Concentration

Follow the elementary education program. Add these courses to professional requirements:

ED 441, 455, 442**, 456, 458, 302	24
HPR 461	3

### Secondary and Noneducation Majors

The following courses must be taken before entering the concentrations:

ED 403, 317** or 415** or 432, 318**	9
MTH 343, 344 or equivalent	8

### Certification Students

Students with a bachelor's degree desiring certification only should contact an adviser in special education.

\*\*Participation experiences required.

### Speech and Theatre Education

The speech and theatre education major must elect either a speech communication or theatre arts concentration. The program is designed to prepare students to teach speech and theatre in the secondary schools. Before a student is approved for student teaching by the faculty of the department in which he or she has elected major concentration, the student must accomplish the following: (1) complete Speech 101, 102, and 232; (2) complete Theatre 144, 244, and 350; (3) earn a grade of C or better in Education 333; and (4) participate in cocurricular activities in the area of major concentration, which for theatre arts consists of activities connected with play production not included in classwork, and for speech communication consists of forensics or Speaker's Bureau. It is strongly recommended that a student choose a supporting second teaching field.

### Bachelor of Science in Education Degree

Speech and Theatre Education	
<i>Professional Education Requirements</i>	<b>38-41</b>
ED 119	3
ED 202, 203 (Gen. Ed.,	
Area Three A—two courses)	6
ED 329	2
ED 333**	3
ED 422, 429	15-18
ED 432	3
ED 440, 464	6
<i>Related Requirements</i>	<b>9</b>
PSY 111, 112 (Gen. Ed.,	
Area Three A—two courses)	6
MTH 304*	3
<i>Speech and Theatre Major Requirements</i>	<b>60</b>
Core Courses	42
SPC 101, 102, 111, 128, 232, 449,	
and three hours of 130 or 330	21
TH 101, 102, 144, 220, 244, 350, 352	21
One of the following concentrations:	
Speech Communication Concentration	18
SPC 127, 133, 211	9
Three courses selected from the following:	
SPC 233, 331, 335, 336, 337, 341, 430, 441	9
Theatre Arts Concentration	18
TH 110 (one hour per quarter)	6
TH 320, 324, or 328	6
300- or 400-level electives	6
<i>Additional General Education Requirements</i>	<b>26</b>
Area One	8
Area Two	12
Area Three A or B	6
<i>Electives</i> (Second or supporting	
field suggested)	<b>56-59</b>
<b>Total</b>	<b>192</b>

\*May be waived with proficiency examination.

\*\*Participation experiences required.

### Speech and Theatre as a Second Teaching Field

Forty-five quarter hours required, including the courses specified in the core, and a three-hour elective. Students are encouraged to be active in the cocurricular activities in speech and theatre and to consult frequently with faculty.



# College of Liberal Arts





**Eugene B. Cantelupe** Dean  
**Paul G. Merriam** Assistant Dean  
**Robert A. Francis** Assistant to the Dean  
**Patricia E. Jensen** Records Analyst/Adviser

**Chairman/Department**

**Edward Levine** Art

**William J. King** Classics

**Robert M. Correale** English

**John R. Ray** Geography

**Carl Becker, acting** History

**Anni Whissen** Modern Languages

**William C. Fenton** Music

**Ronald F. Hough** Philosophy

**Robert W. Adams** Political Science

**Nicholas Piediscalzi** Religion

**Jerald Savells, acting** Sociology, Anthropology,  
and Social Work

**Robert E. Pruett** Speech Communication

**Abe J. Bassett** Theatre Arts

The College of Liberal Arts offers a wide variety of majors in the academic disciplines as well as balanced programs providing opportunities for integrated study in related disciplines. It assists in preparing students for professional and graduate study and cooperates with other colleges in offering joint professional and preprofessional studies. Its principal aim is to provide meaningful opportunities for a balanced liberal education. Students are expected to give attention to the arts, humanities, and social sciences, regardless of their professional interests. It is hoped that such liberal studies will augment the student's particular interests, encouraging the student to assume responsibility for gaining both knowledge and judgment which will enhance a later contribution to society.

Programs leading to the Bachelor of Arts degree are offered in anthropology, art, classical humanities, economics, English, environmental studies, French, geography, German, Greek, history, Latin, motion pictures, music, philosophy, political science, religion, social work, sociology, Spanish, speech communication, speech and hearing science, theatre, and urban studies. Programs leading to the Bachelor of Fine Arts degree are offered in art and in theatre arts. A program leading to the Bachelor of Science degree is offered in urban studies. Programs leading to the Bachelor of Music degree are offered in music education, music theory, and performance. Students who meet the general university requirements with reference to registration, residence, scholarship, fees, and General Education requirements, and who maintain a satisfactory record, receive degrees appropriate to the curriculum completed.

### **The Bachelor of Arts Degree**

Successful study for the Bachelor of Arts degree includes the development of basic skills as well as a general introduction to philosophical issues of the culture. The degree provides career opportunities in such areas as communications, foreign service, government, journalism, teaching, and social work, and preprofessional training for such fields as law, medicine, and business. In addition to requirements of the major, composed of a departmental unit in courses taken in one or more departments, the Bachelor of Arts degree includes the following: a minimum of 100 hours of course work in the College of Liberal Arts and completion of the foreign language or research methods requirement. Except in unusual circumstances the student is limited to sixty hours in the major department; exceptions must have prior approval of the dean of the college. To satisfy the foreign language requirement, a student must demonstrate proficiency at the 203 level in a foreign language either by satisfactorily completing course work or by examination. The student who wishes to fulfill the college language requirement in French, German, Spanish, or Russian should consult with the Department of Modern Languages; the student who wishes to fulfill the requirement in Greek or Latin should consult with the Department of Classics. Other languages are acceptable, subject to approval by the Department of Modern Languages and the student's major department. In continuing a language begun elsewhere, the student is placed at an appropriate level. For details on proficiency and placement testing, see guidelines under Department of Modern Languages. The student who selects the research methods option must complete twenty-one quarter hours, approved by the student's major



department, distributed as follows: logic or philosophy of science or social science (two courses); statistics (two courses); computer science (two courses). The student should check with the department for further details. One or the other requirement must be satisfied in its entirety; they may not be mixed.

### **The Bachelor of Fine Arts, Bachelor of Science, and Bachelor of Music Degrees**

The curricula for the Bachelor of Fine Arts degree provide more specialized training than that offered in the B.A. programs. The B.F.A. programs in art and in theatre arts are preprofessional programs with intensive concentrations in the departmental major and related concentrations in the creative arts. The curriculum for the Bachelor of Science degree, currently offered in urban studies, is an interdisciplinary program which should be planned in close consultation with an adviser. The B.S. degree in urban studies attempts to achieve a different focus, especially in the areas of mathematics and statistics, and to meet needs not currently serviced by the B.A. degree. The Bachelor of Music degree is designed for the student who is seeking a professional career in music. Consequently, the B.Mus. major is a more concentrated, more highly structured program than the program for the B.A. The Bachelor of Music in performance requires language competence in either French, German, or Spanish. The Bachelor of Music in theory requires language competence in either French or German. For further details, see Department of Music. In addition to the university and college degree requirements, the student should always consult the requirements of the curriculum specified by the appropriate department.

### **Admission Requirements**

Admission to the College of Liberal Arts requires the satisfactory completion of thirty-six quarter hours and an overall grade point average of 2.0. A student with an average below 2.0 may petition the chairman for acceptance into a given department.

### **Advising**

The liberal arts records analyst advises all undecided majors in liberal arts. A student who has declared a major in one of the liberal arts disciplines is assigned an academic adviser in that discipline.

### **Interdisciplinary Study**

Interdisciplinary majors within the College of Liberal Arts are offered in selected studies and urban studies. Interdisciplinary course work, offered jointly by participating departments within the college or with departments in other colleges, is available in the Departments of Art, English, Geography, History, Philosophy, Religion, and Sociology. See individual programs and course listings.

### **Dual Major in Liberal Arts and Environmental Studies**

Students who elect the dual major in liberal arts and environmental studies fulfill the major requirements in either geography, political science, religion, sociology, or urban studies, in addition to the major requirements for environmental studies. For a detailed description of the program, see environmental studies.

### **Teacher Certification**

The Bachelor of Arts degree with certification is offered in art, French, German, English, history, Latin, and Spanish. Candidates for the B.A. with certification are counselled in their academic programs by faculty advisers in the College of Liberal Arts and in their choice and fulfillment of professional education requirements by advisers in the College of Education. Prospective teachers who wish to pursue the Bachelor of Science in Education degree with a major in one of the liberal arts disciplines should register in one of the teacher education curricula in the College of Education and indicate their choice of teaching fields. See individual programs under College of Education.

### **Honors at Graduation**

Honors are awarded at graduation to students in recognition of the superior quality of their work. Currently, departmental honors programs are available in classical languages, English, history, political science, and religion. A student interested in pursuing an honors program as prescribed by one of these departments should consult with the chairman of the appropriate department.



## Art

Professor Cantelupe  
Associate Professors Koerlin, Levine (chairman), Must  
Assistant Professors Kiser, Macaulay, Sibbison, Spurlock, Yalkut  
Instructor Leach

The Department of Art offers programs leading to the Bachelor of Arts and the Bachelor of Fine Arts degrees, with areas of concentration in drawing, media (film and video), painting, photography, printmaking, and sculpture. The B.A. degree is designed for those students who wish to combine a liberal education with specific studies in art. The B.F.A. degree is designed for students who want to pursue a more intense professional program in art.

The student who elects to specialize in a single area must choose an adviser who will assist in determining the appropriate program for establishing proficiency in that area. The student who elects to work in two or more areas must choose a faculty committee of at least two members from those areas; the committee will advise the student on the program and review progress each quarter. Because self-expression and self-learning are ultimate goals of the program, the student is largely responsible for determining the options which best meet individual needs and interests.

Students are required to have their work reviewed by the entire staff. The review for the B.A. is usually conducted before the student has completed forty-six hours in the department. The B.F.A. review is normally conducted when the student has completed between forty-six and sixty-two hours in the department. Those who wish to become B.F.A. candidates will petition the faculty at the time of their review. The department will notify the student in writing of its decision. Students who do not meet the basic proficiency standards of the department during their first review may petition to have a second review of their work prior to the completion of eighty-four credits in art. In addition to senior presentation, all candidates for the B.F.A. must pass a senior review of their work by the art faculty prior to graduation.

Students who wish to apply for transfer credit in art must submit a qualifying portfolio of studio work completed at another institution. Transfer credit is determined upon review of the work by members of the art faculty. First-year students are required to submit examples of their work only if they are seeking advanced placement; otherwise, all first-year students in art are admitted to the general curriculum.

Candidates for a degree in art may prepare for graduate study, careers in teaching, or the professional practice of art. Candidates for the B.A. or B.F.A. with certification must complete specific requirements as outlined by the College of Education.

### **Bachelor of Fine Arts Degree Art**

<i>General Education Requirements</i>	<b>47</b>
<i>Departmental Unit</i>	<b>102</b>
Foundations (ART 201, 202, 203)	12
Art history (ART 141, 142, and at least one course in twentieth-century art)	18
Upper-division courses (ART 201, 202, 203 or permission of instructor required)	69
Senior seminar	3
<i>Electives</i>	<b>34</b>
<b>Total</b>	<b>183</b>

### **Bachelor of Arts Degree Art**

<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>60</b>
Foundations (ART 201, 202, 203)	12
Art history (ART 141, 142, and at least one course in twentieth-century art)	12
Upper-division courses (ART 201, 202, 203 or permission of instructor required)	36
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>55</b>
<b>Total</b>	<b>183</b>

## **Classics**

Associate Professors C. King, W. King (chairman)  
Instructor Moriarty

The Department of Classics offers majors leading to the Bachelor of Arts degree in classical humanities and in classical languages (Greek or Latin).

The study of the classics is concerned with the examination of the civilizations of Greece and Rome. It is the oldest area study, and the student must range through the disciplines of language and literature, art, archaeology, and history to appreciate fully the contributions of Greece and Rome to Western civilization.



Requirements for the major in classical humanities are quite flexible, but it is advisable for students to consult the Department of Classics in order to insure a well-rounded and representative curriculum. The one inflexible requirement is study of Latin or Greek on the college level: the classical humanities major must complete at least twenty-four hours of language study and attain proficiency in at least one of the languages at the 203 level. Majors can also be taken in either Greek or Latin; the student will be expected to develop some facility in the nonmajor language.

The major in classical humanities is a useful major for those who have not decided upon a specific vocation and who are interested in the humanities. A bachelor's degree in classical humanities is suitable for students who plan to terminate their formal education at the undergraduate level. The major in classical languages is more suitable for students who wish to continue their studies on the graduate level; the areas of ancient history and classical archaeology as well as classics are open to them. The student who majors in either classical humanities or classical languages will find the bachelor's degree useful in any position requiring a liberal arts degree.

Superior students may, upon application to the Department of Classics, participate in the departmental honors program. They should have a grade point average of 3.5 in classics and 3.0 overall and should have completed a substantial portion (twenty-seven to thirty hours) of the major requirements. For further details, consult the department.

<b>Bachelor of Arts Degree</b> Classical Humanities	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>48</b>
Greek or Latin language	24
Classical Humanities electives	24
<i>Electives and Related Courses</i>	<b>88</b>
<b>Total</b>	<b>183</b>

<b>Bachelor of Arts Degree</b> Greek or Latin	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>36</b>
Greek or Latin language	
<i>Electives and Related Courses</i>	<b>100</b>
<b>Total</b>	<b>183</b>

### Economics

Professors Anon, Fabrycy, Treacy  
Associate Professors Blake, Chao, Renas  
Assistant Professors Evans, Germer (adjunct), Kader (WOBC), Kumar, Maris, Premus, Weinstein, Whippen

Economics is a broad discipline. As the oldest of the social and business sciences it historically has been concerned with the great question of how to improve man's standard of living. Most problems of interest to economists are encountered daily. Leaders at all levels of government are concerned with taxation, ecology, world trade, poverty, and economic planning. Businessmen face problems of increasing productivity, satisfying public needs, and innovating for growth. Unions strive for jobs, incomes, and better conditions of work. All citizens are affected by inflation, equality of opportunity, and the very structure of the economic system itself.

A variety of students major in economics. Some are primarily socially-politically oriented. Others seek careers in business, finance, or government. Still others are interested in teaching and research.

Graduates in economics will find that the breadth of their background and the rigor of their training allow them to compete favorably in the job market or to gain entrance to a wide variety of graduate programs in addition to economics. An advanced degree in economics is normally required to find employment as a professional economist.

Candidates for a Bachelor of Arts degree with a major in economics are required to take a minimum of forty-two credit hours in the Department of Economics. Basic courses are supplemented by economics electives. Students should check with their faculty advisers for selection of electives that will best represent their major interests.

<b>Bachelor of Arts Degree</b> Economics	
<i>General Education Requirement</i>	
(waive nine hours of Area Three)	<b>38</b>
<i>Departmental Requirement</i>	<b>42</b>
EC 201, 202, 203	9
EC 315, 316, 317, 480	15
Economics electives	18



<i>Related Course Requirement</i>	<b>24–27</b>
MTH 130, 158	6
QBA 201, 302, 303	9
Three upper-division courses in political science, philosophy, English, psychology, sociology, geography, or history	9–12
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>55–58</b>
<b>Total</b>	<b>183</b>

## English

Professors Baker, Bracher, Cantelupe, Harden, Swanson, Wetmore, Whissen  
Associate Professors C. Cary, N. Cary, Correale (chairman), Gleason, Hughes, Hussman, Pacernick  
Assistant Professors Barton, Ceccio, Howard, Maner, Motes (WOBC), Sammons, Tannenbaum  
Instructors Barton, Hagen (WOBC), Lewis, Lockard, Moliterno (WOBC), Snyder (WOBC), Spraggins, Tomlinson (WOBC)

The English major is designed to provide a balanced program of elementary and advanced work in English and American literature, English language and linguistics, and writing. The program offers the opportunity for systematic study of a major humanistic discipline as well as sound professional training suitable for those planning high school teaching careers or contemplating graduate work. The program also provides an excellent background for students interested in entering professional schools.

In choosing electives, students should try to elect, in consultation with the departmental adviser, courses that will supplement or complement their major interest and that will form a coherent unit of study. English majors must also satisfy a foreign language or research methods requirement. Students may satisfy this requirement by completing the second-year course (203) in a foreign language, by equivalent proficiency examination, or by courses chosen from the research methods core.

Candidates for secondary certification must take the professional education courses prescribed by the College of Education. Early in their program, all English majors seeking certification should review their programs with a teacher certification adviser in the College of Education to insure fulfillment of the necessary requirements for certification.

Through its participation in the University Honors Program, the Department of English enables an English major with a superior academic record to earn an honors degree in English.

<b>Bachelor of Arts Degree English</b>	
<i>General Education Requirement</i>	<b>47</b>
<i>English Major Requirement</i>	<b>52</b>
ENG 250, 251	8
ENG 351 or 352; 353 or 354; 355 or 356 or 357; plus one other course from 351–357 group	16
At least three of the following courses, each from a different category:	
ENG 410, 420, 430, 440, 450, 460, 470	12
Two additional 300 and/or 400 level courses	8
One course in advanced composition or creative writing	4
One course in linguistics (ENG 360 or 480).	4
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>63</b>
<b>Total</b>	<b>183</b>

## Environmental Studies

Students in the College of Liberal Arts may combine a departmental major in either geography, political science, religion, sociology, or urban studies with a subsequent major in environmental studies. The dual major program encourages interdisciplinary perspective by simultaneously training the student in the requisites of the departmental discipline and by providing resources for the study of environmental problems. The program seeks to provide better-informed persons in a variety of vocations who will be equipped to make considered value judgments and to use the legal and political channels available to them in order to function as environmentally responsible citizens.

The student's program is jointly approved by a departmental adviser in either geography, political science, religion, sociology, or urban studies and by the academic coordinator for environmental studies. Students are required to take a core of courses which emphasizes the physical, social, and humanistic aspects of environmental problems and are given the opportunity to pursue their individual interests through an internship program.



## Degree Requirements

The student must fulfill both the requirements of a departmental major and the requirements for environmental studies. The total credit-hour requirement for the dual major does not exceed the normal requirement of a conventional single-major degree program. The dual major requirements in environmental studies are as follows:

<i>Core Curriculum</i>	<b>18</b>
ENV 111, 112, 113, 211, 212, 213	
<i>Related Elective Courses</i>	<b>22</b>
including ENV 411, 499	
<b>Total</b>	<b>40</b>

The following sample outlines the requirements for a dual major in sociology and environmental studies:

<i>General Education Requirement</i>	<b>48</b>
<i>Departmental Unit</i>	<b>40</b>
<i>Related Courses (Sociology)</i>	<b>24</b>
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Environmental Studies Core</i>	<b>18</b>
<i>Related Environmental Courses</i>	<b>22</b>
<i>Electives</i>	<b>10</b>
<b>Total</b>	<b>183</b>

## Geography

Associate Professors Oshiro, Ray (chairman)  
Assistant Professors Clemens, Doherty, Warren  
Instructor Wetter (WOBC)

Geography may be selected as an academic major or as a secondary teaching major in social science, as part of an earth science program, or as part of an elementary teaching major. Geography courses may satisfy both general education requirements and advanced course electives in many programs. Students majoring in geography may qualify for certification at the secondary level by meeting the minimum requirements in professional education courses essential to certification by the State of Ohio. Students interested in this option should consult a records analyst in the College of Education for information concerning minimum requirements. The department cooperates with other academic disciplines and programs in the dual major program.

Geography majors will select a special area of study from eight curricula: general geography, cultural geography, physical geography, urban

planning, resource management, urban-economic geography, and two concentrations in applied geography. Each of these curricula provides liberal course options which allow the geography major to adapt the total program to his or her particular interests and future plans. Because sequential requirements and prerequisites exist in both the professional and academic components of each program, the student is strongly urged to consult an adviser before registering.

The Department of Geography seeks to provide students with an awareness and understanding of the spatial organization and distribution of phenomena in the physical and human world. Geography has a broad interdisciplinary base ranging from natural to behavioral sciences. Such topics as climatology, landform analysis, settlement theory, spatial interaction, and urban morphology indicate the breadth of contemporary geography.

The geographer must take account of historical and cultural processes, including people's diverse attitudes toward the earth and how these have changed through time. The geographer must consider economic and social processes which influence such geographical conditions as industrial location, population distribution, urban spatial structure, settlement patterns, and the use of resources. The geographer must be able to employ the data of natural science, or be intimately concerned with the data of social science and the intelligence of philosophy.

The undergraduate major in geography thus includes the study of cultural, economic, physical, and regional geography, as well as cartography, quantitative methods, and field work. Backgrounds in the natural and social sciences, humanities, statistical methods, and computer programming are useful to the geography major.

<b>Bachelor of Arts Degree</b> Geography	
<i>General Education Requirement</i>	<b>47</b>
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Departmental Core Requirement</i>	<b>25</b>
GEO 101, 102, 103	9
GEO 285	5
GEO 365	5
One course in systematic geography	3
One course in regional geography	3
<i>Departmental Major Requirement</i>	<b>30</b>
<i>Related Course Requirement</i>	<b>24</b>
<i>Electives</i>	<b>36</b>
Should be selected in consultation with the departmental adviser to complement and support the area of concentration.	
<b>Total</b>	<b>183</b>



## Geography Major Curricula

### Major in General Geography

<i>General Geography Major Requirement</i>	<b>30</b>
GEO 230, 242, 253, 271	16
GEO 302, 322, 354	10
One appropriate geography course numbered 399 or above	4

#### *Related Course Requirement* **24**

Approved courses numbered 200 and above (not to exceed four courses in one department) in anthropology, biology, chemistry, classics, economics, English, environmental studies, geology, history, mathematics, modern languages, philosophy, physics, political science, psychology, religion, sociology, and urban studies.

### Major in Cultural Geography

<i>Cultural Geography Major Requirement</i>	<b>30</b>
GEO 242, 262	7
GEO 302, 343, 391	11
GEO 458, 464	6

Two appropriate courses in systematic geography

#### *Related Course Requirement* **24**

Approved courses numbered 200 and above (not to exceed four courses in one department) in anthropology, classics, English, history, modern languages, philosophy, political science, psychology, religion, and sociology.

### Major in Physical Geography

<i>Physical Geography Major Requirement</i>	<b>30</b>
GEO 230, 271	8
GEO 322, 331	7
GEO 432, 445	9

Two appropriate geography courses numbered 300 or above

#### *Related Course Requirement* **24**

Approved courses numbered 200 and above (not to exceed four courses in one department) in computer science, engineering, geology, mathematics, and physics.

### Major in Resource Management

<i>Resource Management Major Requirement</i>	<b>30</b>
GEO 230, 253, 261, 271	16
GEO 356	5
GEO 458	3

Two appropriate geography courses numbered 300 or above

#### *Related Course Requirement* **24**

Approved courses numbered 200 and above (not to exceed four courses in one department) in biology, business, computer science, economics, engineering, environmental studies, history, marketing, political science, religion, and urban studies.

### Major in Urban-Economic Geography

<i>Urban-Economic Geography Major Requirement</i>	<b>30</b>
GEO 242, 253	8
GEO 343, 354	7
GEO 455, 458, 466	9

Two appropriate geography courses numbered 300 or above

#### *Related Course Requirement* **24**

Approved courses numbered 200 and above (not to exceed four courses in one department) in computer science, economics, environmental studies, history, marketing, mathematics, political science, psychology, sociology, and urban studies.

### Major in Urban Planning

<i>Urban Planning Major Requirement</i>	<b>30</b>
GEO 242, 253, 275	12
GEO 343, 376	7
GEO 477	3

Two appropriate geography courses numbered 300 or above

#### *Related Course Requirement* **24**

Approved courses numbered 200 and above (not to exceed four courses in one department) in anthropology, art, biology, chemistry, computer science, economics, education, engineering, environmental studies, geology, history, marketing, mathematics, political science, psychology, quantitative business analysis, social work, sociology, and urban studies.

### Major in Applied Geography Physical

<i>Applied Physical Geography Major Requirement</i>	<b>30</b>
GEO 230, 261	8
GEO 331, 322, 362	11
GEO 445	5

Two appropriate geography courses numbered 300 or above

#### *Related Course Requirement* **24**

Approved courses numbered 200 and above (not to exceed four courses in one department) in computer science, engineering, environmental studies, geology, mathematics, and physics.



<b>Major in Applied Geography</b> Urban Planning	
<i>Applied Urban Planning Geography Major Requirement</i>	<b>30</b>
GEO 261, 275	8
GEO 343, 362, 376	11
GEO 445	5
Two appropriate geography courses numbered 300 or above	6
<i>Related Course Requirement</i>	<b>24</b>
Approved courses numbered 200 or above (not to exceed four courses in one department) in anthropology, art, biology, chemistry, classics, computer science, economics, engineering, environmental studies, geology, mathematics, physics, political science, psychology, quantitative business analysis, social work, sociology, and urban studies.	

### History

Professors Cox, Dailey, Dorn, Spiegel  
Associate Professors Becker (acting chairman), Merriam, Spetter, Sutch, Yuan  
Assistant Professors Arbagi, Swann, Wachtell  
Instructor Wood (WOBC)

The undergraduate major in history enables a student to gain a broad liberal arts education. In meeting the specific requirements of the major, the student is encouraged to further his or her knowledge of the principal developments and problems of history and to enrich the understanding of historical evolution through research and writing. Through complementary elective courses in other departments, which add depth and variety, the student enlarges the historical perspective. Through exposure to a broad spectrum of human experience in the past and present, the student should come to an understanding of the self and his or her relationship to other human beings and to the structure of society. The history major can thus be used generally by the student who wishes to be a useful member of the community, and specifically by the student who seeks a career in such fields as teaching, journalism, library and archival work, government, politics, law, and business. The departmental program also provides a sound basis for the student who is planning to pursue study at the graduate level.

The student who declares history as a major is assigned an academic adviser who will assist with academic routines, the selection of individual courses, and the development of undergraduate and postgraduate goals.

**History Honors Program**  
Departmental honors at graduation are awarded on the basis of the student's completion of the following: at least one interdisciplinary honors seminar; History 401 (with a grade of A or B); a 3.0 average in history and a 2.7 average in overall course work; a Bachelor of Arts degree in history. In exceptional cases, certain requirements may be waived by a vote of the departmental honors committee.

<b>Bachelor of Arts Degree</b> History	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>51</b>
Professional Courses: HST 300, 400, 498	7
HST 401, an honors project, may substitute for HST 400 upon recommendation of the student's adviser and approval by the Departmental Honors Committee:	
U. S. history (upper division)	9
European history (upper division)	9
Third World—Asian, African, Latin American—history (upper division)	6
History electives	20
<i>Related Courses</i>	<b>24</b>
Twelve hours in one of these fields: anthropology, art, classics, economics, literature, geography, music, philosophy, political science, religion, or sociology	
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>40</b>
<b>Total</b>	<b>183</b>

### Modern Languages

Associate Professors Babb, Larkins, Park, Racevskis  
Assistant Professors Cannon, Horn, Matual, A. Whissen (chairman)  
Instructors Cambria, Clayton, Liaugminas

The contributions of foreign language study to international understanding and world peace and the value of language literacy within the framework of liberal education have long been recognized. The foreign language program seeks to combine



oral and written proficiency with knowledge of the culture and literary heritage of societies other than our own. In keeping with this aim, the department provides the student with excellent preparation for entrance into many crucial and challenging fields. Chief among these are the diplomatic corps, foreign trade, government, business, industry, and teaching.

Students should be aware that knowledge of a foreign language alone is often insufficient for many careers. Therefore, the goal of the language major should be to combine knowledge of a language with another discipline or skill. While a second foreign language is not required, the department strongly recommends it as a positive asset.

The Department of Modern Languages offers majors leading to the Bachelor of Arts degree in French, German, and Spanish. The student who seeks teacher certification in these three languages may work toward the Bachelor of Science in Education degree, available through the College of Education, or may earn a Bachelor of Arts degree with certification, fulfilling both the requirements of the language major and the professional education requirements of the College of Education.

In addition to major programs in French, German, and Spanish, the department offers basic courses in Russian, comparative literature, foreign cultures, literature in translation, and linguistics. Guidelines for student placement and proficiency testing are outlined below.

**Placement and Proficiency**

Students are responsible for placing themselves on the language level at which they can perform satisfactorily. The following placement pattern is suggested:

- High school training / Recommended course level*
- No foreign language / 101
- One year / 101
- Two years / 201
- Three years / 201
- Four years / 321 and/or 341

Students are not obligated to follow this placement scale. However, if they are uncertain about the appropriate placement level, they may make arrangements with the modern language department to take a test to determine their capability.

Proficiency credit may be earned in two areas: 300-level conversation courses (six credits), and 300-level composition courses (nine credits).



<b>Bachelor of Arts Degree French</b>	<b>47</b>
<i>General Education Requirement</i>	
<i>Departmental Unit</i>	<b>45</b>
FR 201, 202, 203; 301, 302, 303	18
FR 321, 322, 323; 341, 342, 343	15
(321 and 341, 322 and 342, 323 and 343 should be taken concurrently and prior to 301, 302, and 303 if possible)	
FR 361	3
French electives (300- and 400-level courses)	9
<i>Related Courses</i>	<b>24</b>
CPL 201, 202, 203	12
(Students should take the whole sequence.)	
ML 111, 112, 113, 114	6
(Students should choose the culture course related to their field plus at least one other culture course.)	
ML 211, 212, 213, 214, 215	6
(Students should choose at least two literature courses in translation outside their own field.)	
<i>Electives</i>	<b>67</b>
<b>Total</b>	<b>183</b>



<b>Bachelor of Arts Degree German</b>	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>45</b>
GER 201, 202, 203; 301, 302, 303	18
GER 321, 322, 323; 341, 342, 343	15
(321 and 341, 322 and 342, 323 and 343 should be taken concurrently and prior to 301, 302, and 303 if possible)	
German electives (300- and 400-level courses)	12
<i>Related Courses</i>	<b>24</b>
CPL 201, 202, 203	12
(Students should take the whole sequence.)	
ML 111, 112, 113, 114	6
(Students should choose the culture course related to their field plus at least one other culture course.)	
ML 211, 212, 213, 214, 215	6
(Students should choose at least two literature courses in translation outside their own field.)	
<i>Electives</i>	<b>67</b>
<b>Total</b>	<b>183</b>

<b>Bachelor of Arts Degree Spanish</b>	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>45</b>
SPN 301, 302, 303	9
SPN 321, 322, 323; 341, 342, 343	15
(321 and 341, 322 and 342, 323 and 343 should be taken concurrently and prior to 301, 302, and 303 if possible)	
SPN 331, 332, 333; 361	12
Spanish electives (400-level courses)	9
<i>Related Courses</i>	<b>24</b>
CPL 201, 202, 203	12
(Students should take the whole sequence.)	
ML 111, 112, 113, 114	6
(Students should choose the culture course related to their field plus at least one other culture course.)	
ML 211, 212, 213, 214, 215	6
(Students should choose at least two literature courses in translation outside their own field.)	
<i>Electives</i>	<b>67</b>
<b>Total</b>	<b>183</b>

## Music

Professors Fenton (chairman), Wurtz  
Associate Professors Atsalis, Foster, Poff, Steinhart  
Assistant Professors Bland, Magill, Olds, Welch, Young  
Instructors Johnson, Laws, Levitan  
Music Associates Andrews, Cavally, Gilley, Hageman, Haines, Jordan, P. Katz, Ph. Katz, Kemp, Love, Massey, Miller, Pitzer, Rasor, Rodgers, Scutt, Stofer, Varella, A. Wasson, B. Wasson

The Department of Music offers thorough four-year curricula designed for the serious student who wishes to pursue a career in music. As a member of the National Association of Schools of Music, the department has designed the requirements for entrance and graduation in accordance with the published regulations of the association. The Bachelor of Music degree is offered with majors in performance, music education, and music theory. The Bachelor of Arts degree is offered with a major in music. Because of the highly individualized nature of the various programs, the student is required to consult with an adviser in planning a major program. In addition, the department offers students majoring in other academic areas opportunities to enrich their lives through study in music courses and through participation in choral and instrumental organizations.

All students in the university, as well as members of the community, are eligible to participate in the musical organizations. Some groups require individual auditions; prospective members should consult the various conductors to arrange auditions. Membership in the University Band, Orchestra, Chorus, or other authorized performing group is required of all music majors throughout their period of study, as described in the curricular outlines. The following instrumental groups are available: Orchestra, Symphony Band, Concert Band, Brass Choir, Stage Band, and Varsity Band. Choral groups include the University Chorus, Chamber Singers, Men's Glee Club, and Women's Chorus.

In addition to fulfilling university admissions procedures, the prospective music major must also complete a departmental application for an audition, perform a satisfactory audition in a major performance area, take a musical aptitude examination, and meet with an assigned adviser from the music faculty for counseling and registration.

Transfer students must submit a complete transcript of all previous work in addition to completing the above steps. Courses that parallel those of the Department of Music will be accepted, as long as they meet the academic requirements of the university. Placement in applied music will be determined by the music faculty during the first quarter of residence. A minimum of one year of full-time study will be required of any transfer student working toward a degree.



Because of the cost of individual instruction, special fees are charged for applied music. These are held at the reasonable quarter rate of \$35 for one half-hour lesson per week or \$65 for two. A \$5 rental fee is charged each quarter for class instruction in strings, woodwinds, and brass instruments.

The music faculty requires a high percentage of attendance at recitals, concerts, and similar lectures or performances. The development of musical repertoire, performance skills, and discriminate listening is an important part of the curriculum of music majors and the fulfillment of the requirement is necessary for graduation. A schedule of acceptable performances is published quarterly. Attendance at a minimum of eight performances is required during each quarter in residence.

A progressive course of study based on four grade levels of technical proficiency, musicianship, and repertoire has been developed in all applied music performance fields. Minimum requirements in each category are available to the music major and will be supplied upon request. Music majors will perform for the faculty twice each year, as follows: freshmen—end of first and third quarters; upperclassmen—end of second and third quarters. For further information about applied music requirements, the student may refer to the applied music policy statement available in all studios.

All music majors must pass a keyboard proficiency test. A copy of this test is available to the student on request and should be discussed with an adviser as early as possible in the program.

During four years of study, there are many opportunities for the music major to perform in class recitals and concerts. During the junior year, performance majors will present a half solo recital; during the senior year, performance majors will present a solo recital. Music education majors may perform a solo recital or they may share a recital with another music education major; music theory majors will present one-half of a lecture recital. Before the student is qualified for graduation, all recitals must be approved by the music faculty upon recommendation of the studio teacher.

### **Curricula Leading to the Bachelor of Music Degree**

*Major in Performance* The department offers majors in the following areas of performance: piano, voice, organ, violin, viola, violoncello, string

bass, flute, oboe, clarinet, bassoon, saxophone, trumpet, French horn, trombone, euphonium or baritone horn, tuba, and percussion. In certain instances, students may major in fields other than those listed. A student majoring in one of these areas must study continuously in that instrument or in voice until all graduation requirements are met, including satisfactory public performance of a half solo recital during the junior year and a full solo recital during the senior year. To be eligible for the Bachelor of Music degree, the performance major must have a minimum cumulative average of 3.0 in the major performing medium and a 2.0 in all other required music courses.

*Major in Music Education* Students who specialize in music education may elect either an instrumental or a vocal—general music emphasis. Upon completion of the requirements of the music education program, which includes the requirements of the Ohio Board of Education, the student receives the Ohio Special Certificate for teaching music. To be eligible for the Bachelor of Music degree, the music education major must have a minimum cumulative average of 3.0 in music education courses and a 2.0 minimum cumulative average in all other required music courses.

*Major in Music Theory* An entering student may elect to pursue the curriculum leading to a Bachelor of Music degree with a major in music theory. It should be understood that the theory major degree is not a terminal degree and that the student pursuing this curriculum should expect to continue at the graduate level. For this reason, all students considering this program must consult





with the coordinator of music theory prior to entrance into this program.

In order to meet graduation requirements with a major in music theory, the student must advance to performance level 4A in the principal performance area and pass all keyboard proficiency requirements. A 3.0 average must be achieved in all required music theory courses and a 2.0 average is necessary in all other required music courses. Senior students will present one-half of a lecture-recital. This requirement will be met through a scholarly lecture in the field of music theory and may include the presentation of original compositions and performance.

## Bachelor of Music Degree

Major in Performance	47
<i>General Education Requirement</i>	42
<i>Departmental Core Requirement</i>	18
MUS 101, 102, 103; 201, 202, 203	6
MUS 151, 152, 153; 251, 252, 253	18
MUS 121, 122, 123; 311, 312, 313	33
<i>Major Requirements</i>	3
MUS 100 or 155 (except for piano major)	12
MUS 301, 302, 303; 351, 352, 353	6
MUS 335, 336	(9)
HST 121, 122, 123 (hours counted as part of General Education requirement)	(6)
<i>General Education Electives</i>	12
Spanish, French, or German (Students other than voice majors able to pass a reading examination in one of these languages may substitute elective hours for this requirement.)	82-93
One of the following:	83
<i>Major in Voice</i>	17
MUS 441, 442; 320, 420, 481, 482, 483	6
MUS 261, 262, 263	48
MUS 110	6
MUS 105	6
Choral Ensemble	6
<i>Major in Piano</i>	82
MUS 451, 452, 453; 401, 402, 403; 430	19
MUS 100	48
MUS 105	3
MUS 205	6
Electives (music or nonmusic)	6
<i>Major in Organ</i>	83
MUS 401, 402, 403; 441, 442	11
MUS 160	48
MUS 110	6
MUS 105	3
Choral Ensemble	6
MUS 205	3
Religion elective (hours counted as part of General Education requirement)	(3)
Electives (music or nonmusic)	6

<i>Major in Strings (violin, viola, violoncello, or double bass)</i>	84
MUS 401, 402, 403; 421, 422, 423	15
MUS 180, 190, 200, or 210	48
Secondary string study (one quarter of private lessons in each of the other string instruments excluding the major)	3
MUS 105	3
MUS 205	3
MUS 135	12
<i>Major in Woodwinds</i>	87
MUS 401, 402, 403; 421, 422, 423; 441, 442	17
MUS 120, 130, 220, 230, or 240	48
MUS 105	3
MUS 115	9
MUS 135	3
MUS 205	3
Secondary woodwind study (One quarter of private lessons in each of the other woodwind instruments excluding the major)	4
<i>Major in Brass</i>	93
MUS 401, 402, 403; 421, 422, 423; 441, 442	17
MUS 140, 150, 170, 250, or 260	48
MUS 105	3
MUS 115	12
MUS 135	3
MUS 205 or Brass Choir	6
Secondary brass study (One quarter of private lessons in each of the other brass instruments excluding the major)	4
<i>Major in Percussion</i>	86
MUS 401, 402, 403; 421, 422, 423; 441, 442	17
MUS 270	48
MUS 105	3
MUS 115	12
MUS 135	3
MUS 205	3
<i>Major in Classical Guitar</i>	84
MUS 401, 402, 403; 421, 422, 423	15
MUS 280	48
MUS 105	3
Choral Ensemble	3
MUS 205	9
MUS 215, 216, 217	3
Music elective (not performance)	3
<b>Total</b>	<b>205-215</b>



## Bachelor of Music Degree

Major in Music Education

General Education Requirement 47

Departmental Core Requirement 42

MUS 101, 102, 103; 201, 202, 203 18

MUS 151, 152, 153; 251, 252, 253 6

MUS 121, 122, 123; 311, 312, 313 18

Major Requirements 24

ENG 111, 112 (eight hours, counted as part of General Education requirement)

Humanities (nine hours, counted as part of General Education requirement)

Laboratory Science (twelve hours, counted as part of General Education requirement)

HST 121, 122, 123 (choose two; six hours counted as part of General Education requirement)

Mathematics (ACT score of 19 or proficiency examination or one three-hour course)

PSY 111, 112 (six hours, counted as part of General Education requirement)

ED 202, 203 (three hours counted as part of General Education requirement, three hours counted as part of major requirement) 3

ED 422 3

ED 440 3

ED 464 3

ED 429 12

One of the following: 79-94

Concentration in Voice with Piano Secondary or

Concentration in Piano or Organ with Voice

Secondary 83

Concentration 24

Secondary 11

MUS 105, 175, 185, or 195 11

MUS 205 (if piano is concentration) 3

MUS 215, 224, 226, 227 4

MUS 261, 262, 263 6

MUS 328, 329 9

MUS 335, 336 6

MUS 421, 422 4

Music electives (not performance) 5

Concentration in Band or Orchestral

Instrument 79

Concentration 24

MUS 100 or 155 3

MUS 115 or 135 11

MUS 145, 146, 147 3

MUS 205 3

MUS 215, 216, 217; 224, 225, 226; 227, 228, 229 9

MUS 323, 324 6

MUS 329 5

MUS 335, 336 6

MUS 421, 422 4

Music electives (not performance) 5

Concentration in Voice with Piano and Classical

Guitar Secondary or Concentration in Piano or

Organ with Voice and Classical Guitar

Secondary\* 94

Concentration 24

Secondary 11

Secondary—Classical Guitar 11

MUS 105, 175, 185, or 195 11

MUS 205 (if piano is concentration) 3

MUS 215, 224, 226, 227 4

MUS 261, 262, 263 6

MUS 328, 329 9

MUS 335, 336 6

MUS 421, 422 4

Music electives (not performance) 5

\*Classical Guitar recital option possible with

departmental approval.

**Total 197-213**

**Bachelor of Music Degree** Major in Music Theory

General Education Requirement 47

Departmental Core Requirement 42

MUS 101, 102, 103; 201, 202, 203 18

MUS 151, 152, 153; 251, 252, 253 6

MUS 121, 122, 123; 311, 312, 313 18

Major Requirements 78

MUS 205 3

MUS 301, 302, 303; 351, 352, 353 12

MUS 335, 336 6

MUS 481, 482, 483 (special studies in the

areas of acoustics, pedagogy of theory,

canon and fugue, composition) 6

MUS 421, 422, 423; 401, 402, 403;

471, 472, 473 24

MUS 481, 482, 483 (lecture preparation) 3

Ensemble (at least one hour per quarter; at least

three hours in vocal music) 12

HST 121, 122, 123 (nine hours, counted as part of

General Education requirement)

PSY 111, 112 (six hours, counted as part of

General Education requirement)

French or German 12

One of the following: 24-33



<i>Keyboard Concentration</i>	<b>24</b>
Keyboard	18
Private or class instruction (at least one hour each in voice, woodwinds, strings, brass, percussion)	6
<i>Non-Keyboard Concentration</i>	<b>33</b>
Concentration	18
Piano (class or private instruction)	12
Private or class instruction (selected from voice, woodwinds, strings, brass, percussion)	3
<b>Total</b>	<b>191-200</b>

### **Curriculum Leading to the Bachelor of Arts Degree with Major in Music**

The Bachelor of Arts degree in music is designed for the student who wants to learn about music but does not necessarily plan a professional career in music. The student will get a much broader, more general education than the student seeking a Bachelor of Music degree. Required courses are kept to a minimum. Consequently, the student must work closely with an adviser in selecting course electives. For graduation, the student must demonstrate performance ability at the level of classification 4A.

<b>Bachelor of Arts Degree Music</b>	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Core Requirements</i>	<b>42</b>
MUS 101, 102, 103; 201, 202, 203	18
MUS 151, 152, 153; 251, 252, 253	6
MUS 121, 122, 123; 311, 312, 313	18
<i>Major Requirements</i>	<b>48-51</b>
MUS 481, 482, 483	6
Music Electives	9-12
Theory and/or literature of music, conducting, ensemble (maximum of three hours)	
Related Courses (nine hours in one field)	12
Anthropology, art, classics, economics, history, literature, mathematics, philosophy, physics, religion, sociology	
Foreign Language or Research Methods Requirement	21
Latin, French, German, or Spanish, or successful completion of proficiency examination in one language	
<i>Electives</i>	<b>46</b>
<b>Total</b>	<b>183-186</b>





## Philosophy

Associate Professors Hough (chairman), Power  
Assistant Professors Beelick, Walters  
Instructor Tomlinson (WOBC)

The philosophy major is designed to encourage clear and logical thinking about problems which philosophers attempt to solve, to develop the student's ability for critical evaluation through analysis and appreciation of such attempts, and to increase the student's cultural experience through acquaintance with the more important philosophic writings.

The thirty-six hour requirement in the major affords a considerable measure of flexibility; it enables students to utilize numerous options in other disciplines to prepare for different professional objectives, while also developing a relatively broad understanding of our society and culture. It is to the major's advantage to pursue courses in other fields since philosophy, by its very nature, is interrelated with all disciplines. Many academic departments include within their curricula courses in the philosophy of their disciplines. Furthermore, philosophical questions can arise during one's investigation of any specific field.

Because of differences among student interests and the ready availability of electives, each major will follow an individualized program in consultation with an adviser. Such a program permits concentration in cognate fields and encourages exploration and self-discovery.

Since the required courses in philosophy are designed to emphasize basic issues confronting our civilization, the philosophy major is excellent preparation for those who seek a well-rounded liberal education, for those who pursue further training in professional disciplines such as law, medicine, and theology, and for those who plan advanced study in philosophy.

### **Bachelor of Arts Degree** Philosophy

<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>36</b>
<i>Electives and Related Courses</i>	<b>79</b>
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<b>Total</b>	<b>183</b>

## Political Science

Professor R. Smith

Associate Professors R. Adams (chairman), Hutzel,  
Kotecha, Thobaben, Weng  
Assistant Professors Funderburk, Moore,  
Sanderson, Shaw, Sirkin, Walker

Politics and government represent the oldest and most universal of human activities and institutions. The political process has increasingly become the medium for coping with important issues of social life. Governmental actions and policies bear heavily on the outcome of issues generated by concern for the economy, physical environment, international peace and security, human rights, technological change, and development of responsive and effective political institutions. Thus, a major in political science offers knowledge of human behavior in a primary area of social life. Furthermore, it trains the student in intellectual skills necessary for the consideration of political questions and provides excellent preparation for careers in law, public service, teaching, journalism, communications, and private community organization.

The Department of Political Science offers courses on government and politics in the following areas: the United States, China and Japan, Eastern and Western Europe, Africa, the Middle East, and the Soviet Union. The department also provides opportunity for study in international politics, law, and organization, political thought, and methods of empirical political research and analysis.

Political science majors must complete a minimum of forty-eight credit hours in political science courses, twenty-four of which must be taken at Wright State University. PLS 201 and either 112 and 113 or 122 and 123 are required of all majors. Students are encouraged, however, to take both PLS 112, 113 and 122, 123, since each series represents basic preparation for all U.S. and non-U.S. advanced courses. Majors are further encouraged to take course work in political thought as foundation in the philosophy of the discipline. Students who plan to continue study in political science at the graduate level should take course work in methods of empirical research and analysis.

Juniors and seniors who have an accumulative grade average of 3.0 are eligible for courses in independent study, but such courses (PLS 490, 491, 492) do not count toward the forty-eight hour minimum. Political science majors must demonstrate or develop proficiency in a foreign language or satisfy a department-approved research methods requirement. For political science majors, approved courses for the research methods option are PLS 210, 310; CS 141, 142;



PHL 115, 472. Students must satisfy one or the other requirement in its entirety.

**Honors in Political Science**

Senior political science majors who have a minimum grade point average of 3.0 in political science or who have support from one member of the department may qualify for participation in a departmental honors program. Interested students should consult with the department chairman. Applications are reviewed individually by a departmental honors committee. If approved, a student may achieve honors in political science in either of two ways:

*Option 1.* Complete and defend a senior thesis on a topic approved in advance by the departmental honors committee. A maximum of twelve credit hours may be earned through thesis research. The number of hours for which the student registers depends on the nature of the research and is determined jointly by the student and the honors committee.

*Option 2.* Pass a comprehensive written examination embracing three subfields in which courses are offered in the department. Students who select this option should register for PLS 490, for four credit hours, during the winter or spring quarter of their senior year. High honors will be conferred on students who write a thesis or examinations of A quality, while honors will be granted to those whose thesis or examinations are of B quality. Credit hours and a grade of C will be awarded to students whose work falls below B. Credit hours earned by participation in the departmental honors program may not be counted toward the forty-eight hour minimum required of majors.

**Bachelor of Arts Degree Political Science**

<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>48</b>
PLS 112, 113 and 201 or	
PLS 122, 123, and 201	12
Political Science Electives	36
<i>Related Courses</i>	<b>24</b>
Economics, geography, history, philosophy, psychology, or sociology. To meet special needs, courses in such fields as accounting, business, religion, English, and speech may be counted as related hours.	
<i>Foreign Language or Research Methods Requirement</i>	<b>22-24</b>
<i>Electives</i>	<b>40-42</b>
<b>Total</b>	<b>183</b>

**Dual Major With Environmental Studies**

Political science majors may take a simultaneous dual major in the growing career field of environmental studies by using available related and elective hours options. See department chairman for details or consult the academic coordinator of environmental studies.

**Religion**

Professor Piediscalzi (chairman)  
Associate Professors Albanese, Friedland (Sanders Scholar), Reece, Stoesz  
Assistant Professors Barr, Neve

The Department of Religion is devoted to a comprehensive and nonsectarian inquiry into religion as one of the significant areas of man's life and thought. Like classics, philosophy, history, English, and other humanistic studies, this disciplined inquiry is one key to that understanding of man in his world which is essential to a sound liberal education. The religious factor in culture has been a powerful one. It is heavily embedded in most of the world's history, its literary documents, and its social institutions. Consequently, there is perhaps no better mode of access to a broad acquaintance with the whole range of past and present human concerns than the academic study of religion.

The goal of this kind of study, which emphasizes the development of critical and responsible standards of judgment, is a lucid understanding of the major themes that have arisen in the history of religions and the relation of these themes to the continuing problems of man. There are three main areas in the study of religion at Wright State: the history and literature of the world's major religions; the more general problems which arise in the understanding of religion wherever it is found; and interdisciplinary studies, such as "Evolution," which is taught jointly with the Department of Biological Sciences, and others, which are taught jointly with other departments.



A major in religion requires forty-five quarter hours of work within the department, including the successful completion of REL 110, 111, and 112, plus another nine-hour sequence in one of the following areas: Biblical studies, Western religious thought, ethics, Eastern religion, philosophy of religion, American religion. In addition, one three-hour interdisciplinary course and three hours selected from 450, 451, and 452 are required. Of these courses in religion, fifteen hours must be at the 300 level or above. Religion majors must also complete twenty-seven hours of related courses selected from a wide range of disciplines related to their area of specialization. The courses are to be selected in consultation with, and approved by, the adviser. Additionally, students will be required to demonstrate or develop proficiency in a foreign language related to their area of specialization or, with department approval, fulfill a research methods requirement of twenty-one hours. The aim is to allow each student sufficient latitude to explore interests in the arts and sciences to the fullest so as to obtain a genuinely liberal education.

The department participates in the university's dual and double major programs. For further details see the department chairman.

The Department of Religion encourages superior academic work through full participation in the university's honors programs. Special seminars and discussion sections, departmental reading courses, and other opportunities are available to the superior student. Relatively small classes also make possible a close working relationship between student and professor. Junior and senior religion majors and students with a 3.0 accumulative average and adequate background in religion may participate in the departmental honors program. Interested students should contact the chairman of the department.

Any vocation that might follow from a good arts and sciences education is possible for the major in religion. For example, professions such as law, the ministry, and medicine, and fields such as government and social work, business, or teaching are a few of the possibilities. Normally, the technical training required for most of these fields would come after completion of the baccalaureate program.

## **Bachelor of Arts Degree Religion**

<i>General Education Requirement</i>	<b>48</b>
<i>Departmental Unit</i>	<b>45</b>
REL 110, 111, 112. One nine-hour sequence selected from the following areas: Biblical studies (200, 201, 202, 203); Western religious thought (310, 311, 312, 313); ethics (270, 271, 272, 370, 378); philosophy of religion (392, 421, 460); Eastern religion (three courses at or above the 300 level); American religion (431 and two separate sections of 330). One three-hour interdisciplinary course and three hours in 450, 451, 452.	
<i>Religion Electives</i>	<b>21</b>
A maximum of three hours may be credited toward this requirement from REL 450, 451, 452; and six hours from 470, 481, 482, 483. At least fifteen hours must be at the 300 level or above.	
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Related Courses</i>	<b>27</b>
Approved courses related to area of specialization	
<i>Electives</i>	<b>42</b>
<b>Total</b>	<b>183</b>

## **Sociology, Anthropology, and Social Work**

### **Professor Cross**

Associate Professors Ballantine, Boo, Cargan, Good (director of social work), Islam, Korenbaum, Savells (acting chairman)

Assistant Professors Bognar, Cummings, Koebernick, Lieberman, Mielke, Murray, Reid, Siegal, Thatcher, Ugbolue, Welty

Instructors Marple, Pirie

Departmental programs in sociology, anthropology, and social work each provide majors leading to the Bachelor of Arts degree.

### **Sociology**

The major in sociology contributes to a liberal education by orienting the student toward increased understanding of the organization and functioning of human social groups and of the methods and techniques for analyzing these social units. The overall training in sociology familiarizes the student with perspectives of social change and with knowledge and skills for dealing effectively with policy questions and interpersonal relations experienced in the various roles throughout the life cycle.

The major in sociology prepares the student for graduate work in the discipline, for advanced training in professional programs such as law, social work, hospital administration, and corrections, and for careers in community services, government, extension service, public relations, and teaching.



**Bachelor of Arts Degree Sociology**

<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>45</b>
SOC 111, 112, 206, 207, 301, 303	18
Sociology electives	27
<i>Related Courses</i>	<b>24</b>
Selected from anthropology, economics, geography, political science, psychology, history, and social work, speech communication (only the following speech communication courses are acceptable: SPC 102, 141, 233, 341, 352, 429, 441, 443, 445, 447, 449, and 453)	
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>46</b>
<b>Total</b>	<b>183</b>

**Anthropology**

The major in anthropology is designed to provide a distinct perspective on the biological, social, and cultural aspects of the human heritage. Courses permit intensive study of particular topics within the field according to the student's individual interests and aptitudes. The overall program contributes to an understanding of the human community and enriches the student's knowledge of the diversity of human experience in a multitude of cultural settings, past and present.

Students who plan to major in anthropology are encouraged to take ATH 140, 141, and 142 in sequence. Nonmajors may enter the sequence at any time, but they are advised to start with 140.

**Bachelor of Arts Degree Anthropology**

<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>45</b>
ATH 140, 141, 142, 448	12
Anthropology electives	33
<i>Related Courses</i>	<b>24</b>
Selected from biology, economics, geography, political science, psychology, and sociology	
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>46</b>
<b>Total</b>	<b>183</b>

**Social Work**

Successful completion of the social work curriculum leads to a professional degree. The major in social work is designed to prepare students to enter social work employment at the beginning level of practice and to prepare students for admission to graduate study in social work.

The major in social work is accredited by the Council on Social Work Education.

**Bachelor of Arts Degree Social Work**

<i>General Education Requirement</i>	<b>36</b>
(waive Area Three A)	
<i>Sociology Prerequisites</i>	<b>6</b>
SOC 111, 112	
<i>Departmental Unit</i>	<b>53-56</b>
SW 270, 370, 380, 381, 470, 472, 481, 482, 483, 484, 490, 491	38
SW 487 (depends on practicum option)	15-18
<i>Related Courses</i>	<b>30</b>
ATH 140 and sociology, anthropology electives	9
Psychology	9
Political science and economics electives	12
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>34-37</b>
<b>Total</b>	<b>183</b>

**Speech Communication**

Associate Professors Dreher, Eakins, Pruett (chairman), Shupe  
 Assistant Professors Gaw, Rickert, Sayer  
 Instructors Davis, Lynch

The department embraces the broad spectrum of communication. Students are encouraged to develop abilities as effective communicators and as informed, critical receivers. Department objectives include practical as well as theoretical approaches to the understanding of communication: scientific as well as humanistic avenues of inquiry; and historical as well as contemporary perspectives. Together, these diverse dimensions provide students with a sense of historical roots, comprehension of human interaction, an appreciation of the aesthetics of experience, and a grasp of the totality of factors that influence and direct communication.

**Speech Communication Major**

The major in speech communication is designed for students who wish to specialize in rhetoric and public address or in communication theory. The major offers the student preparation for a variety of careers in education, industry, and government.



Speech communication majors are expected to achieve basic proficiency in communication skills and to master the essentials of rhetorical and communication theory. All speech communication majors must take twenty-four hours of required courses, as well as a minimum of twenty-four hours of electives. In addition, they must take twelve of twenty-four required related hours in a single department other than speech communication; this requirement is determined by each student with the guidance and approval of an adviser. All speech communication majors are expected to participate in cocurricular clubs and activities.

Speech communication majors may qualify for state certification at the secondary level by taking the required professional courses in the College of Education.

<b>Bachelor of Arts Degree</b> Speech Communication	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>48</b>
Required courses	24
SPC 101, 102, 141, 221, 233, 335, 352, and three hours of 130 or 330	
Minimum electives in major	24
<i>Related Courses</i>	<b>24</b>
At least twelve hours in one field related to the student's special interests; to be chosen with adviser's approval	
Electives in business, classics, English, motion pictures, history, philosophy, political science, psychology, sociology, and theatre.	
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>43</b>
<b>Total</b>	<b>183</b>

### Speech and Hearing Science

The major in speech and hearing science is a preprofessional program designed for the student planning a career as a speech or hearing therapist in clinics and hospitals. National certification in this profession requires a master's degree and clinical experience which must be completed elsewhere.

The profession of speech pathology and audiology is concerned with communication competency as manifested in speech, language, and hearing. It is devoted to the study and management of disorders, normal development, and cultural-ethnic influences. Understanding the infinite complexity of communication processes demands a variety of approaches; consequently, skills in behavioral, biological, and physical sciences are all applicable to work in the profession.

The curriculum proposes to help the student understand the physical and intellectual processes that make speech, language, and hearing possible.

The recommended program is designed to promote not only the maturity of the student but also the student's ability to guide the behavior of others. Thus, the major will provide a strong theoretical base for later clinical application.

Students should plan their undergraduate programs in anticipation of continuing their study at the graduate level. Because of prerequisites and the sequential nature of some courses, the student is strongly urged to consult an adviser before registering. Periodically, faculty will meet in conference with students to help them evaluate their progress.

### Bachelor of Arts Degree

Speech and Hearing Science	
<i>General Education Requirement</i>	<b>47</b>
Must include: SOC 111, 112; BIO 111, 112, 113; PSY 111, 112	
<i>Departmental Unit</i>	<b>45</b>
Basic Areas	
SPC 101, 102, 128, 221, 223, 224, 228, 324	24
Professional Areas	
SPC 127, 321, 322, 325, 421, 422, 449	21
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Related Courses</i>	<b>24</b>
ENG 360	4
PSY 311, 331, 341, 433, 455	20
<i>Electives</i>	<b>46</b>
The following are strongly recommended: MTH 127; PHY 101, 102, 103; PHY 111, 112, 113	
<b>Total</b>	<b>183</b>

### Theatre Arts

Professor Bassett (chairman)  
Associate Professor Yaffe  
Assistant Professors Andrew, Nickerson, Osborn,  
Wonsek  
Instructors Delamater, Hill

The Department of Theatre Arts offers majors leading to the Bachelor of Arts and Bachelor of Fine Arts degrees with concentrations in theatre, acting/directing, design/technology, motion pictures, and theatre arts management.



## Majors in Theatre

To be accepted as a theatre major, the student must apply for admission to a degree program upon completion of at least thirty-six hours, of which fifteen hours must be in theatre courses. In addition to a minimum grade point average of 2.0, the student must have demonstrated proficiency in applied areas of theatre through participation in University Theatre productions. The student then completes a departmental application form and is interviewed by a committee of theatre faculty. Upon acceptance, the student will be assigned an adviser who will assist in devising a program of study consistent with the student's career objectives. All students are required to consult with their advisers each quarter prior to registration.

All theatre majors are expected to achieve basic proficiency in production techniques and skills. They must demonstrate satisfactory mastery of fundamentals of vocal and physical action consistent with their career goals and objectives. Faculty will meet periodically in conference with each student and evaluate the student's progress. All majors must participate in production activities of University Theatre as an extension of classroom experiences. All B.F.A. majors must undergo a jury examination by the faculty at the end of the sophomore and junior years, consisting of a presentation of design portfolios or acting audition materials, depending upon the student's concentration.

Students should plan their undergraduate programs in anticipation of continuing their studies at the graduate level. Majors may qualify for state certification to teach at the secondary level by taking the required professional courses in the College of Education or by following the prescribed list of courses outlined in the speech and theatre education major.

*Theatre Concentration / Bachelor of Arts* Students majoring in theatre who elect to work toward the Bachelor of Arts degree combine the advantages of a liberal education with preparation for a career in one or more areas of theatre or in areas related to theatre. The student is encouraged to maintain a balance between theory and practice and among the various arts of the theatre, gaining insight and perspective through studies in art, history, literature, music, philosophy, religion, and science.

All B.A. theatre majors are required to take TH 101, 102, 110 (six quarters, one hour per quarter), 144, 220, 244, 350, 352, and thirty-three hours of theatre electives. Twenty-four hours of related courses in art, broadcasting, classics, creative writing, dance, literature, motion pictures, music, philosophy, and speech communication will be chosen from a department-approved list with the consent of the student's adviser.

*Theatre Concentration / Bachelor of Fine Arts* The student who majors in theatre and elects to work for the Bachelor of Fine Arts degree studies more intensively in theatre. The student who pursues this preprofessional program must complete 114 hours in theatre, including a core of sixty-six hours, and an *acting/directing or design/technology* concentration of forty-eight hours. The student should declare a concentration by the end of the sophomore year. The B.F.A. student will choose twenty-two hours from a department-approved list of related courses in art, art education, English, music, speech, dance, and motion pictures.

*Theatre Arts Management Concentration / Bachelor of Fine Arts* A B.F.A. major may also elect a theatre arts management concentration by combining studies in theatre and the other arts with studies in the College of Business and Administration. The student who pursues this program must complete forty-five hours of required courses in accountancy, administration, economics, finance, management, and marketing; twenty-four hours of required courses in art, dance, motion pictures, and music; and thirty-six to thirty-nine hours of required courses in theatre.

The theatre arts management concentration emphasizes the practical application of skills. TH 290 (Theatre Management) provides the basis for applying general business practices to the specific problems of theatre. TH 110 (six hours) and TH 310 (three hours) involve the student directly in the activities of the University Theatre production program. Three of the TH 110 hours are devoted to technical activities, while the remaining hours are





devoted to management duties. TH 498 (Professional Theatre Internship) places the student as a management intern with a professional theatre company, culminating the student's training program.

### Majors in Motion Pictures

The curriculum in motion pictures provides a comprehensive study of film as a fine art. Because of its ability to convey the entire spectrum of human experience and imagination, the study of film can be used as a means of exploring those fundamental areas that have always been the preoccupation of liberal arts. The study of film production can provide the individual with an effective and forceful means of artistic expression. To these ends, the curriculum offers two options: the Bachelor of Arts in theatre with a concentration in motion picture history and criticism, and the Bachelor of Fine Arts in theatre with a concentration in motion picture production.

To be accepted as a theatre major with a concentration in motion pictures, the student must apply for admission to the program upon completion of at least thirty-six hours. In addition to a minimum grade point average of 2.0, the student must have successfully completed TH 131 and 180.

#### *Motion Pictures Concentration / Bachelor of Arts*

The B.A. integrates a liberal arts education with an emphasis on film as a means of interpreting human experience. Since the motion picture medium encompasses a wide range of expression, a coordinated program of elective courses is individually designed for each student.

#### *Motion Pictures Concentration / Bachelor of Fine Arts*

The B.F.A. is designed to prepare students for further study and to give them preprofessional training for vocations in many areas of film production; it offers undergraduates with some aptitude an opportunity to develop their creative faculties through this particular medium of artistic expression.

<b>Bachelor of Arts Degree</b> Theatre Arts	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Requirement</i>	<b>60</b>
<i>Related Course Requirement</i>	<b>12-24</b>
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>31-43</b>
<b>Total</b>	<b>183</b>

General Theatre Concentration	
<i>Departmental Unit</i>	<b>60</b>
TH 101, 102, 110 (six hours), 144, 220, 244, 350, 352	27
Additional electives in major (minimum)	33
<i>Related Courses</i>	<b>24</b>
Electives in art, broadcasting, classics, creative writing, dance, literature, motion pictures, music, philosophy, and speech communication from department-approved list	
<i>Electives</i>	<b>31</b>

Motion Pictures Concentration	
<i>Departmental Unit</i>	<b>60</b>
TH 131, 180, 231, 232, 233	15
Additional courses in motion picture history and criticism	36
Additional courses in motion picture production	9
<i>Related Courses</i>	<b>12-18</b>
At least one course in each of the following areas: art, music, television, and theatre. It is strongly recommended that students take ART 141, 142, 143, MUS 111, and TH 101 French recommended to fulfill language requirement	
<i>Electives</i>	<b>37-43</b>

<b>Bachelor of Fine Arts Degree</b> Theatre Arts	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Requirement</i>	<b>86-114</b>
<i>Related Course Requirement</i>	<b>0-22</b>
<i>Electives</i>	<b>0-51</b>
<b>Total</b>	<b>183</b>

Acting/Directing Concentration	
<i>Departmental Unit</i>	<b>114</b>
TH 101, 102, 110 (eighteen hours), 120, 144, 203, 220, 244, 324, 328, 320, 350, 352, 360, 361, 390	66
TH 108, 140, 310 (six hours)	12
Theatre electives in acting, directing, history, and playwriting, chosen with the advice of the major adviser.	36
<i>Related Courses</i>	<b>22</b>
To be chosen in consultation with the adviser from a department-approved list of courses in art, art education, English, music, speech, dance, motion pictures. Courses not listed by the department are not eligible to be counted toward fulfilling the basic requirement for graduation.	



Design/Technology Concentration	
<i>Departmental Unit</i>	<b>114</b>
TH 101, 102, 110 (eighteen hours), 120, 144, 203, 220, 244, 320, 324, 328, 350, 352, 360, 361, 362, 390	66
TH 410 (eighteen hours)	18
Theatre electives in design and technology chosen with the advice of the major adviser.	30
<i>Related Courses</i>	<b>22</b>
To be chosen in consultation with the adviser from a department-approved list of courses in art, art education, English, music, speech, dance, motion pictures. Courses not listed by the department are not eligible to be counted toward fulfilling the basic requirement for graduation.	



Theatre Arts Management Concentration	
<i>Departmental Unit</i>	<b>105-108</b>
TH 101, 102, 110 (six hours), 290, 310 (three hours), 498, and six hours from 360, 361, or 362	36-39
<i>Related Courses</i>	<b>69</b>
ADM 350	
ACC 201, 202, 203	
ECO 201, 202, 203	
FIN 301, 302	
MGT 301, 302	
MKT 301, 302, 303, 441	
ART 141, 142, 390	
DAN 111	
MUS 111, 112	
TH 131, and three hours from 231, 232, or 233	
<i>Electives</i>	<b>28-31</b>

Motion Pictures Concentration	
<i>Departmental Unit</i>	<b>86</b>
TH 131, 180, 231, 232, 233	15
Additional production courses: TH 181, 182, 183, 280, 281, 282, 283, 385 (six hours)	28
Additional history and criticism courses: TH 331, 332, 333, 435 (six hours each)	24
Required courses: TH 101, 120, 144, 244, 350, 304	19
<i>Electives</i>	<b>51</b>
It is strongly recommended that students take ART 270, 271, 272, 280, 281, 282, and LCS 455	

## Urban Studies

Paul Shaw, Acting Director

Urban studies is an undergraduate interdisciplinary program in the College of Liberal Arts. Administered by the Office of Urban Studies, the program offers majors leading either to the Bachelor of Arts or the Bachelor of Science degree. The objective of the program is to provide the student with an appreciation of the urban community as a complex system and to motivate the student to approach urban processes from an interdisciplinary perspective. More specifically, the program is designed to prepare some students for junior or entrance-level positions in both local government and selected community agencies. The program may also serve the needs of students preparing for graduate work in such areas as community planning, criminal justice, and urban communication.

Individuals may apply for admission anytime. Students will be notified of acceptance within thirty days. For additional information about the program and admission criteria and procedures, contact the Office of Urban Studies.

<b>Bachelor of Arts Degree Urban Studies</b>	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>60</b>
URS 211, 411, 492	14
EC 330	3
GEO 242	4
HST 216	3
PLS 225	4
SOC 444	3
Urban studies electives	29
<i>Related Requirements</i>	<b>7</b>
ENG 343	4
SOC 206	3
<i>Foreign Language or Research Methods Requirement</i>	<b>21</b>
<i>Electives</i>	<b>48</b>
<b>Total</b>	<b>183</b>



<b>Bachelor of Science Degree</b> Urban Studies	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Unit</i>	<b>60</b>
URS 211, 411, 492	14
EC 330	3
GEO 242	4
HST 216	3
PLS 225	4
SOC 230	3
Urban studies electives	29
<i>Related Requirements</i>	<b>22-24</b>
ENG 260	4
SOC 206	3
Mathematics and statistics	15-17
<i>Electives</i>	<b>52-54</b>
<b>Total</b>	<b>183</b>

### **Selected Studies**

Jerome M. Clemens, Program Committee  
Coordinator

The program in selected studies allows a student to pursue a self-designed course of study. It is planned for the person with a definite educational objective that diverges from the majors presently offered by the College of Liberal Arts. While the program is free from several traditional requirements, the student must follow certain other requirements and procedures for obtaining the degree.

A student is eligible for admittance to the program after completing forty-five quarter hours of study. In consultation with program sponsors, the student formulates a contract outlining study goals and stipulating at least forty-five quarter hours of "core" courses that help to accomplish those personal goals. The contract is forwarded to the Program Committee for evaluation and approval.

In addition to completing the core and meeting all university and college requirements for graduations, the student must successfully complete at least forty-five quarter hours of study in courses numbered 300 or above. Finally, from six to eighteen hours of credit must be earned in LA 490, Senior Project in Selected Studies. A proposal for the project must be submitted to the Program Committee for approval before the beginning of the student's senior year.

The prospective major in selected studies should see the committee coordinator for more detailed information about the program.

<b>Bachelor of Arts Degree</b> Selected Studies	
<i>General Education Requirement</i>	<b>47</b>
<i>Core Courses</i>	<b>45</b>
<i>Senior Project (LA 490)</i>	<b>6-18</b>
<i>Foreign Language or Research Methods Requirement</i>	<b>21-22</b>
<i>Electives</i>	<b>50-64</b>
<b>Total</b>	<b>183</b>

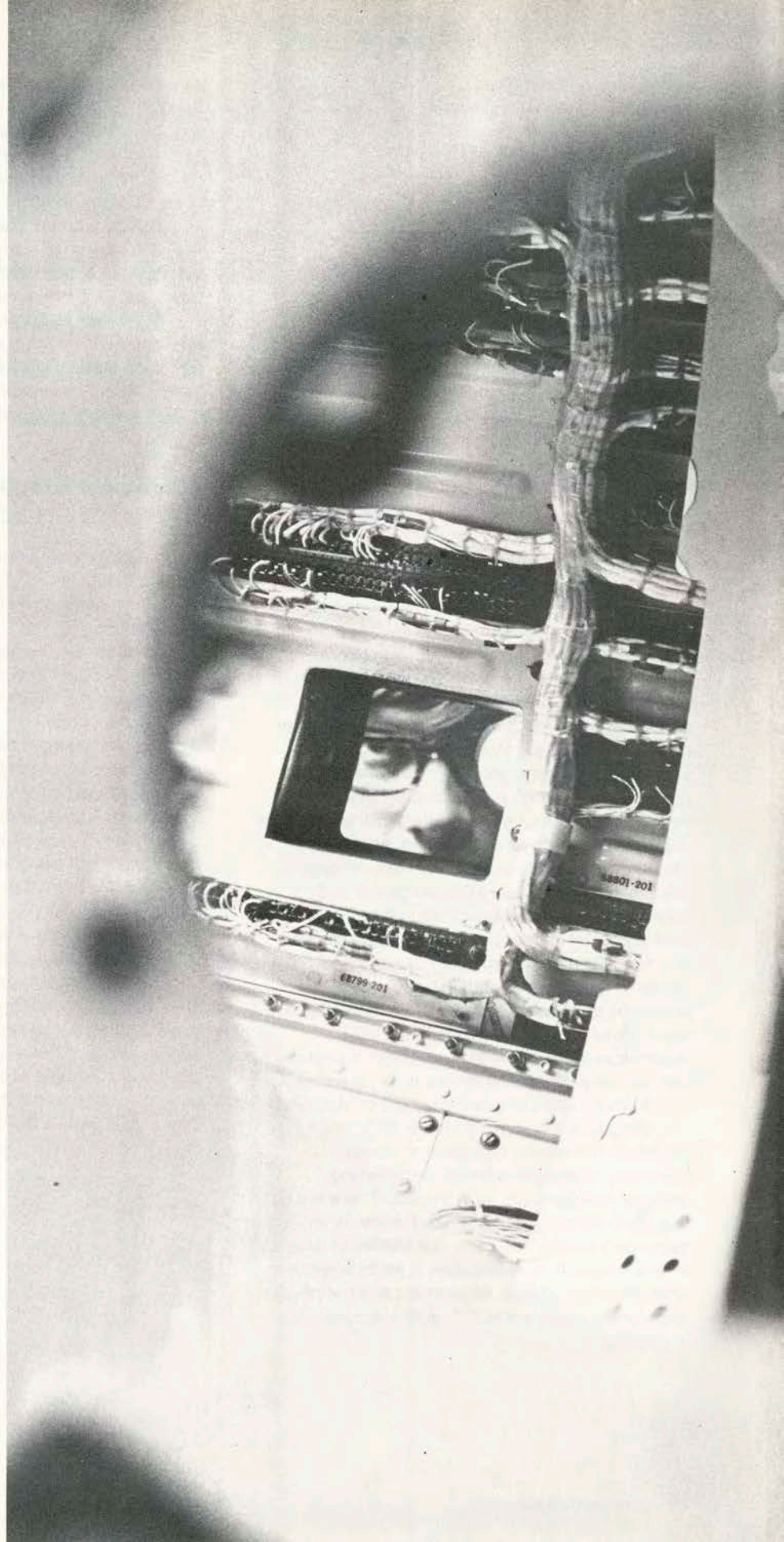
Ordinarily no more than forty-five hours in one department may be counted toward the degree.

<b>Bachelor of Fine Arts Degree</b> Selected Studies	
<i>General Education Requirement</i>	<b>47</b>
<i>Core Courses</i>	<b>45</b>
<i>Senior Project (LA 490)</i>	<b>6-18</b>
<i>Electives</i>	<b>72-85</b>
<b>Total</b>	<b>183</b>

Ordinarily no more than a combination of 100 hours of course work may be taken in the Departments of Art, Music, and Theatre, and no more than sixty hours in any one department may be counted toward the degree.



# College of Science and Engineering





**Brian L. Hutchings** Dean  
**Lois A. Cook** Assistant Dean  
**Marc Low** Assistant Dean  
**R. Fred Rolsten** Assistant Dean

**Chairman** /Department  
**Antonio Zappala** Anatomy  
**Ira Fritz** Biological Chemistry  
**George Dimopoulos** Biological Sciences  
**David J. Karl** Chemistry  
**James Brandeberry** Computer Science  
**Brian L. Hutchings, acting** Engineering  
**Ronald G. Schmidt** Geology  
**Krishan Gorowara** Mathematics  
**Nancy J. Bigley** Microbiology  
**John Martin** Physics  
**Samuel Kolmen** Physiology  
**George H. Crampton** Psychology  
**Timothy Wood** Environmental Studies

The College of Science and Engineering offers programs leading to both bachelor's and master's degrees in several disciplines. The Bachelor of Science degree is offered in biology, environmental health, medical technology, chemistry, computer science, systems engineering, engineering physics, human factors engineering, geology, mathematics, physics, and psychology. Bachelor of Arts programs are available in biological sciences, chemistry, geology, mathematics, and psychology. In addition, interdisciplinary baccalaureate programs are offered by some of the departments, such as engineering, geology, mathematics, and physics. Dual major programs are available in virtually all departments (e.g. chemistry-business, physics-education, environmental studies); students should discuss any specific interests with the college adviser. Students interested in certain professional programs ordinarily can take one of the science curricula or a modified program that will be acceptable for graduation, for transfer elsewhere to the desired professional program, or for admission to the Wright State University School of Medicine.

Programs leading to a Master of Science degree are offered in biological sciences, chemistry, computer science, engineering, geology, mathematics, and physics. There are also two graduate programs intended primarily for secondary school teachers. The Master of Science in Teaching with specialization in earth science is offered by the geology department and the physics department offers the M.S.T. with a specialization in physics.

The College of Science and Engineering and the College of Liberal Arts participate in a multidisciplinary program leading to the degree of Master of Arts in applied behavioral science. The program is jointly administered by the Departments of Psychology, Political Science, and Sociology.

The departments also offer honors programs that give well-qualified students the opportunity to carry out an independent research project and pursue advanced course work.

Admission to the college is gained by application. After consultation with the office of the dean, the student will be assigned an adviser in the appropriate department who will assist the student in developing a program of study.

### **Requirements for the Bachelor of Science Degree**

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To be eligible for the Bachelor of Science, the student must:

- 1 Fulfill the university General Education requirements.
- 2 Complete the residency requirement of forty-five quarter hours at Wright State. At least fifteen of the last forty-five hours for the degree must be taken in residence.
- 3 Complete at least 183 quarter hours of acceptable academic work with at least a 2.0 cumulative average and at least a 2.0 average in a major field. A student may find it necessary to earn more than 183 quarter hours to meet the requirements of the curriculum chosen.
- 4 Complete at least seventy-five quarter hours in advanced courses (numbered 200 and above) applicable to the degree.
- 5 Complete at least fifty-four quarter hours in one department; by permission of the department chairman, up to eighteen hours of this requirement may be taken in a closely related field.
- 6 Complete all the requirements in one of the approved programs of study established by the departments or within the college. A student must take at least ninety-five quarter hours outside the major department.



## Requirements for the Bachelor of Arts

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To be eligible for the Bachelor of Arts in the College of Science and Engineering, a student must complete the requirements listed for the Bachelor of Science and must also:

1 Complete at least nine courses in departments outside the College of Science and Engineering.

The level and type of courses to be taken are subject to the discretion and approval of the student's major department. These courses are in addition to those needed to fulfill the General Education requirement.

2 Complete at least three courses in a department in the College of Science and Engineering other than his major department. These courses are in addition to those needed to fulfill the General Education requirement.

## Teacher Certification

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Students seeking certification to teach in secondary schools should make application for admission to the teacher certification program at the beginning of their junior year. These students should contact a teacher certification adviser in the College of Education.

## Anatomy

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Professors Zambarnard, Zappala (chairman)  
Adjunct Professor Craft

Associate Professors Griffith, Phelps

Adjunct Associate Professor Fries

Assistant Professors Daley, Kuntzman, Scott

Adjunct Assistant Professors Call, Garfunkel, Makkar, Miller

Instructors DeWitt, Silva, Turner

The Department of Anatomy encompasses the areas of gross anatomy, microanatomy (histology, cell biology, electron microscopy, scanning microscopy), embryology, neuroanatomy, clinical anatomy, and surgical anatomy. The department provides course work at the undergraduate level for students planning to enter medicine, nursing, or other health-related professions. It also provides course work at the professional level under the auspices of the School of Medicine. Although the department does not offer a degree in anatomy, a student may develop a concentration in anatomy as part of the Bachelor of Science degree in biological sciences.

## Biological Chemistry

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Professors Batra, Kmetec

Associate Professor Fritz (chairman)

Assistant Professors Nduaguba, Organisciak, Peterson, Smith

Instructor Paris

The Department of Biological Chemistry does not offer a formal degree program. Students interested in the area of biological chemistry, including biochemistry, nutrition, and biochemical pharmacology, normally take their degrees in biological sciences either at the baccalaureate or master's level. Under the Biology Honors Program, it is possible for a student to do an undergraduate honors thesis with a faculty member from the Department of Biological Chemistry. Students interested in this area of study need background courses in biology, other life sciences, and chemistry. Courses offered by the department will be useful to students interested in the life sciences or health and allied health professions.

## Biological Sciences

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Professors Dimopoulos (chairman), Honda, Hubschman, Hutchings

Associate Professors Arlian, Barbour, Kantor,

Lucas, Rake, Rossmiller, Seiger, Wood

Assistant Professors Amon, Conway, Foley,

Hudson (WOBC), Jensen, Keller, Norris (WOBC)

Visiting Assistant Professor Glick

The Department of Biological Sciences offers the following degree programs: Bachelor of Science and Bachelor of Arts in biology, Bachelor of Science in medical technology, Bachelor of Science in environmental health, and Master of Science in biology. Individual programs of study are planned with the assistance of a departmental adviser within the framework of university, college, and departmental requirements.



An honors program enables qualified students to carry out an independent project under the guidance of a faculty sponsor. Students who have maintained a cumulative average of 3.0 during the preceding three quarters may petition the Department of Biological Sciences to pursue an honors program. Application for admission to the program should be made during the winter quarter of the junior year. Information concerning this program is available from the department office.

## Bachelor of Science Degree

The Bachelor of Science curriculum offers a broadly based integrated approach to the life sciences. The departmental unit consists of a core of courses selected from four subject areas combined with elective courses from the Departments of Biological Sciences, Anatomy, Physiology, Biological Chemistry, and Microbiology. Programs of study for students with such differing interests and objectives as graduate work in molecular biology, field work in aquatic biology or preprofessional preparation for the medical, dental or veterinary sciences can be accommodated within this degree program. Students will formulate a specific plan of study in consultation with their faculty adviser.

### Bachelor of Science Degree Biology

#### General Education Requirement

(waive area two)

35

#### Departmental Unit

75-76

Area A (three courses): BIO 111-112, and BIO 113 or 114, or, with adviser approval, one Area B course listed below.

A course may not be used to satisfy both Area A and Area B requirements. 12-13

Area B (three courses): BIO 202, 203, 204, 205, 206 15

Area C (three courses): BIO 302, 303, 304, 305, 306, 403 15

Area D (one course): BIO 307 or 402 6

Area E: BIO 492 2

Area F (life science electives) a minimum of 25 credits selected from 300 and 400 level courses in the Departments of

Biological Sciences, Physiology, Microbiology, Anatomy, or Biological Chemistry are required.

In certain specified programs, up to ten credits of this requirement may be elected from 300 or 400 level courses in other departments in the college. Students should consult the adviser regarding recommendations for specific programs.

<i>Required Supporting Courses</i>	<b>65.5-74</b>
CHM 121, 122, 141	13.5
CHM 211, 212, 213, 215, 216, 217	18
PHY 111, 112, 113	
or 240, 241, 242 (labs required)	13.5-19.5
MTH 132, 133, 134; or 132, 164/165, 265/266	13-15
Each student must also complete a laboratory course in analytical chemistry or a two-quarter sequence in computer science.	7.5-8
<i>Electives</i>	<b>11-20.5</b>
<b>Total</b>	<b>196</b>

## Medical Technology

The medical technology program includes three years of prescribed study at Wright State University and a one-year internship in a clinical laboratory approved by the American Society of Clinical Pathologists (ASCP) and the Board of Schools of Medical Technology of the Council of Medical Education of the American Medical Association. Affiliated internship programs are available at Good Samaritan, Kettering Memorial, Miami Valley, Springfield Community, and St. Elizabeth Medical Center Hospitals. Internship programs in other ASCP-approved laboratories are available with departmental consent. The internship program credits are applicable to the advanced credit and total credit requirements of the college.

During the third year of the program, students must apply for admission to the medical technology school of one of the affiliated hospitals.

Acceptance of the individual student into an internship program is determined by the school of medical technology. Students are eligible for admission to an internship only after completion of the prescribed program of study at the university. (A minimum residence of one year is required.) Additional information about the internship program is available from the Department of Biological Sciences.



## Bachelor of Science Degree

Medical Technology	
<i>General Education</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>50</b>
BIO 111, 112, 206	13
BIO 302, 305, 202	15
BIO 402, 307, 303 or 476/477	17
MIC 426	5
<i>Required Supporting Courses</i>	<b>63.5</b>
CHM 121, 122, 141	13.5
CHM 211, 212, 213, 215, 216, 217	18
CHM 312	7.5
PHY 111, 112, 113 (labs required)	13.5
MTH 130, 164, 165, 265, 266	11
<i>Hospital Internship Program</i>	<b>52</b>
BIO 434 through 449	52
<b>Total</b>	<b>200.5</b>

In a program such as this, the sequence in which courses are taken is of extreme importance. The following schedule should be followed closely and all individual programs should be planned with an adviser: *Freshman Year*: BIO Area A; CHM 121, 122, 141; mathematics. Results of the mathematics placement examination will be used to determine the proper initial mathematics course; see mathematics course descriptions. *Sophomore Year*: 200- and 300-level biology and chemistry courses; General Education courses. *Junior Year*: 300- and 400-level courses; CHM 312; PHY 111-113; General Education electives. *Senior Year*: hospital internship program.

## Environmental Health

The curriculum in environmental health provides students with the sound academic background and specialized training and experience needed to function effectively as public health environmentalists. A field internship program, operated in cooperation with participating environmental health agencies, affords an opportunity for practical experience in the real world situation. A program of study, including arrangements for the field internship, that meets the needs and interests of the individual student is planned in consultation with a departmental adviser.

## Bachelor of Science Degree

Environmental Health	
<i>General Education</i>	<b>35</b>
(waive Area Two)	
6 courses Area 3A; 3 courses Area 3B	

<i>Environmental Health Core</i>	<b>39</b>
BIO 292, 492	3
BIO 360, 361, 362, 363, 364, 365	18
BIO 461, 462, 463	9
BIO 366 (Field Internship)	9
<i>Required Supporting Courses</i>	<b>82</b>
BIO 111, 112, 114	12
BIO 202, 306	10
PHS 218, 219	10
CHM 121, 122, 141	13.5
PHY 111, 112, 113 (labs required)	13.5
MTH 130, 164, 165, 265, 266	11
GL 101, 102, 201	12
<i>Social Sciences</i>	<b>9</b>
(3 courses, 200-level or above)	
<i>Electives</i>	<b>33</b>
<b>Total</b>	<b>198</b>

The order in which science courses are taken is important. Students should adhere closely to the following schedule: *Freshman Year*: BIO 111, 112, 114; CHM 121, 122, 141; MTH 130. *Sophomore Year*: BIO 202; MTH 164, 165, 265, 266; PHS 218, 219. *Junior Year*: BIO 360 through 366; PHY 111, 112, 113.

## Chemistry

Professors Battino, Conley, Karl (chairman), Servé, Skinner, Tiernan  
Associate Professors Cummings, Fortman, Harris, Hess, Kane, Seybold, Smith  
Assistant Professors Cook, Ghosh (WOBC), Taylor

The Department of Chemistry offers programs leading to the Bachelor of Arts, Bachelor of Science, and Master of Science in chemistry. The Bachelor of Science in Education is also available with a concentration in chemistry. The Bachelor of Arts and Bachelor of Science curricula are designed to prepare undergraduate students for careers as professional chemists, entrance into



medical or dental schools, or graduate work in chemistry. Both programs are flexible and permit the options of heavy concentration in chemistry courses or a combination of a chemistry major with extensive course work in allied (other sciences) or nonallied (e.g., business, arts) areas. In order to develop their academic programs to meet specific needs and individual interests, students should consult their academic advisers. The Bachelor of Science program is approved by the American Chemical Society.

### Bachelor of Science Degree

The Bachelor of Science candidate is required to complete the chemistry, mathematics, and physics course sequences in the program outlined below with the following exceptions: CHM 499, Special Problems in Chemistry, is not required; however, it is expected that the serious chemistry major will complete at least four quarter hours of this research course during the senior year. CHM 319, Chemical Literature, is strongly recommended but not required. Although there is no foreign language requirement, two years of study in German, French, or Russian, or one year each of two of these languages, is strongly recommended.

In the Bachelor of Science program with orientation for the premedical student, CHM 311 is not required. The student must take either CHM 420 and 421 or CHM 313 and 315. The physics requirement may be met with the PHY 111, 112, 113 sequences and PHY 101, 102, 103 laboratories. BIO 111, 112, 114 and BCH 421 and 423 are required. At least two courses must be elected from BIO 202, 206, 302, 303, 305, 307, 402, 403. In addition, students must fulfill university and college degree requirements.

Because the order in which science courses are taken is so important, students are advised to adhere closely to the following schedule, bearing in mind that all individual programs are to be planned in consultation with an adviser. *Freshman year:* freshman English; CHM 121, 122, 141; MTH 132, 133, 134. *Sophomore year:* CHM 211, 212, 213, 215, 216, 217; PHY 240, 241, 242. *Junior Year:* CHM 311, 312, 313, 314, 315, 319, 451, 452, 453. *Senior year:* CHM 420, 421, 455.

<b>Bachelor of Science Degree Chemistry</b>	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>72</b>
CHM 121, 122, 141; 211, 212, 213, 215, 216, 217	31.5
CHM 311, 312, 313, 314, 315; 451, 452, 453	31.5
CHM 420, 421, 455	9
<i>Related Course Requirements</i>	<b>32</b>
MTH 132, 133, 134	15
PHY 240, 241, 242, 243, 201, 203	17
<i>Electives</i>	<b>57</b>
Recommended: 21 hours of foreign language	
<b>Total</b>	<b>196</b>

### Bachelor of Arts Degree

The Bachelor of Arts degree candidate is required to complete the chemistry, mathematics, and physics course sequences in the program outlined below. Additional requirements include twelve hours of science electives and two years of foreign language study. The science elective requirement may be satisfied with any course sequence in the College of Science and Engineering, including additional chemistry courses or individual research projects (CHM 499). The foreign language requirement may be satisfied with two years of study in any foreign language or one year each of two languages.

Chemistry majors who are Bachelor of Arts degree candidates are also required to earn twenty-seven quarter hours (eighteen of which must be 200-level or above) outside the College of Science and Engineering. This requirement may not be satisfied with courses used to fulfill foreign language or General Education requirements. In order to insure a reasonably high level of exposure in some area, it is further required that the student complete at least thirty hours in courses numbered 300 or higher applicable to the degree.

<b>Bachelor of Arts Degree Chemistry</b>	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>51</b>
CHM 121, 122, 141; 211, 212, 213, 215, 216, 217	31.5
CHM 312, 314; 451, 452, 453, 455	19.5
<i>Related Course Requirements</i>	<b>40.5-42</b>
MTH 132, 133, 134	15
PHY 240, 241, 242 (with labs); or 111, 112, 113 (with labs)	13.5-15
Science Electives	12
<i>Foreign Language Requirement</i>	<b>21</b>
<i>Additional Courses Outside Science and Engineering</i>	<b>27</b>
<i>Electives</i>	<b>20-21.5</b>
<b>Total</b>	<b>196</b>



## Dual Major Program

The Department of Chemistry participates actively in the university's dual major program. The chemistry requirements for a dual major are given below.

### Chemistry Dual Major Requirements

<i>General Education Requirement</i> (waive Area Two)	<b>35</b>
<i>Departmental Requirements</i>	<b>51</b>
CHM 121, 122, 141; 211, 212, 213, 215, 216, 217	31.5
CHM 312, 314; 451, 452, 453; 455	19.5
<i>Related Course Requirements</i>	<b>28.5–30</b>
MTH 132, 133, 134	15
PHY 240, 241, 242 (with labs); or 111, 112, 113 (with labs)	13.5–15
<i>Second Component of Dual Major</i>	<b>80–81.5</b>
<b>Total</b>	<b>196</b>

A curriculum for a typical dual major program in chemistry and environmental studies is given below.

### Bachelor of Science Degree

Chemistry-Environmental Studies	
<i>General Education Requirement</i> (waive Area Two)	<b>35</b>
<i>Departmental Requirements</i>	<b>51</b>
CHM 121, 122, 141; 211, 212, 213, 215, 216, 217	31.5
CHM 312; 451, 452, 453; 455	19.5
<i>Related Course Requirements</i>	<b>40.5–42</b>
MTH 132, 133, 134	15
PHY 240, 241, 242 (with labs); or 111, 112, 113 (with labs)	13.5–15
Science Electives	12
<i>Foreign Language Requirement</i>	<b>21</b>
<i>Environmental Studies Option</i>	<b>47–48.5</b>
<i>Environmental Studies Core</i>	18
ENV 111, 112, 113; 211, 212, 213	
<i>Related Courses</i>	<b>30–31.5</b>
Selected from anthropology, biological sciences, economics, education, engineering, geography, geology, management, marketing, philosophy, political science, psychology, sociology, urban studies	
<b>Total</b>	<b>196</b>

## Computer Science

Professor Dixon

Associate Professors Belna (WOBC), Brandeberry (chairman), Crum, Davis, Kohler, Schaefer, Winslow

Assistant Professors Leinbaugh, Ross, Smith, Soh  
Instructor Hawley (WOBC)

Computer science is a blending of many traditional and modern areas of study. A wide variety of courses in programming, computing system design, and data processing are available to the student. In addition, many courses in business, engineering, mathematics, and statistics are of particular interest and value.

The department offers a Bachelor of Science program in computer science with three options: computing systems, computer engineering, and a business option. The department also offers a dual major component which, taken with another such component, leads to the Bachelor of Arts.

The computing systems option prepares the student for a career in computing with a thorough foundation in science, mathematics, and computer science. By selection of electives, students can tailor this program to match their own special interests.

The computer engineering option prepares the student for a career in design and development of special-purpose computing equipment. This option gives the student the combination of electrical engineering and computer science necessary to work effectively on computer hardware.

The business option combines business courses with computer science courses to create an individual who can use computers effectively to solve business problems.

The dual major program provides the student with a thorough understanding of computer languages, programming, computer processes, and system application management. This is combined with a similar program in an area in which computers are used, such as environmental studies, chemistry, urban studies, business, etc. The student is thus provided with a program geared to individual interests and providing unique credentials.

### Bachelor of Science Degree Computer Science

Computing Systems Option	
<i>General Education Requirement</i> (waive Area Two)	<b>35</b>
<i>Computer Science Requirements</i>	<b>68</b>
CS 141, 142, 152	12
CS 260	4
CS 300, 301, 316, 317	16
CS 400, 420, 421, 430, 431, 433	24
CS electives	12



<i>Mathematics Requirements</i>	<b>33</b>
MTH 132, 133, 134, 233, 255	25
MTH 360, 361	8
<i>Engineering Requirements</i>	<b>16</b>
EGR 321, 327, 405 or 341, 450; students who wish to take more electronics should take EGR 341 and 441. EGR 405 is a terminal course.	
<i>Physics Requirements</i>	<b>15</b>
PHY 200, 201, 202, 240, 241, 242	
<i>Electives</i>	<b>21</b>
<b>Total</b>	<b>188</b>

Because the order in which science courses are taken is important, students should adhere closely to the following schedule, bearing in mind that all programs are to be planned in consultation with an adviser. *Freshman Year:* MTH 132, 133, 134; CS 141, 142, 152; ENG 111, 112; EC 201, 202, 203. *Sophomore Year:* MTH 255, 233; CS 300, 301, 260; PHY 101, 102, 103, 111, 112, 113. *Junior Year:* EGR 321, 327, 405 or 341; CS 400, 430, 431, 420, 421, 433; MTH 360, 361. *Senior Year:* CS 316, 317; EGR 450.

Computer Engineering Option	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Computer Science Requirements</i>	<b>48</b>
CS 141, 142, 152	12
CS 260	4
CS 400, 402, 420, 421, 430, 431, 433, 453	32
<i>Engineering Requirements</i>	<b>49.5</b>
EGR 212, 213	9
EGR 313, 315, 321, 322, 341, 345	28.5
EGR 441, 449, 450	12
<i>Mathematics Requirements</i>	<b>25</b>
MTH 132, 133, 134	15
MTH 233, 255	10
<i>Physics Requirements</i>	<b>15</b>
PHY 200, 201, 202, 240, 241, 242	
<i>Electives</i>	
Select six courses from CS 316, 317, 470, 480, 434; EGR 421, 425, 426, 432, 444; MTH 360	
<b>Total</b>	<b>196.5</b>

Because the order in which science courses are taken is important, students should adhere closely to the following schedule, bearing in mind that all programs are to be planned in consultation with an adviser. *Freshman Year:* CS 141, 142, 152; MTH 132, 133, 134; ENG 111, 112; EC 201, 202, 203. *Sophomore Year:* EGR 212, 213, 313; MTH 233, 255; CS 260; PHY 111, 112, 113, 101, 102, 103. *Junior Year:* EGR 315, 321, 322, 341, 345; CS 400, 430, 431, 420, 421, 433. *Senior Year:* EGR 441, 450, 449; CS 402, 453.

Business Option	
<i>General Education Requirement</i>	<b>26</b>
(waive Area Two and Three A)	
<i>Computer Science Requirements</i>	<b>60</b>
CS 141, 142, 152	12
CS 260	4
CS 300, 301	8
CS 400, 402, 405, 420, 430, 431, 433, 470, 480	36
<i>Business Requirements</i>	<b>42</b>
EC 201, 202, 203	9
ACC 201, 202, 203	9
MGT 301, 302	6
MKT 301, 302	6
FIN 301, 302	6
QBA 303, 304	6
<i>Mathematics Requirements</i>	<b>14</b>
MTH 224, 225	6
MTH 360, 361	8
<i>Engineering Requirements</i>	<b>4</b>
EGR 251	
<i>Physics Requirements</i>	<b>13.5</b>
PHY 101, 102, 103, 111, 112, 113	
<i>Electives</i>	<b>28.5</b>
<b>Total</b>	<b>188</b>

Because the order in which science courses are taken is important, students should adhere closely to the following schedule, bearing in mind that all programs are to be planned in consultation with an adviser. *Freshman Year:* CS 141, 142, 152; EGR 251; EC 201, 202, 203; ENG 111, 112; MTH 224, 225. *Sophomore Year:* CS 300, 301; ACC 201, 202, 203; PHY 101, 102, 103, 111, 112, 113. *Junior Year:* CS 400, 430, 431, 433, 260; MTH 360, 361; MKT 301, 302; FIN 301, 302; QBA 303, 304. *Senior Year:* CS 405, 420, 470, 480, 402; MGT 301, 302.

<i>Dual Major Requirement in Computer Science</i>	<b>52</b>
Freshman CS 141, 142, 152	12
Sophomore CS 260, 300, 301	12
Junior CS 400	4
Electives selected from CS 316, 317, 402, 405, 420, 421, 430, 431, 433, 470, 480	24



## Engineering

Professors Hannen, Jankowski, Ritchie, Rolsten  
Associate Professors Bethke, Hankins,  
McCormick, Viets  
Assistant Professors Friar, Spalding

The Department of Engineering currently offers programs leading to the Bachelor of Science degree in systems engineering, engineering physics, and human factors engineering. A program in engineering geology is offered jointly by the Departments of Engineering and Geology.

The programs of the Department of Engineering are characterized by emphasis on the newer approaches and techniques that can be applied toward solutions of the problems of mankind. Laboratory facilities cover the areas of semiconductor devices, electronic circuits, integrated circuits, control systems, materials and engineering design; in addition to utilizing the university's computing facilities, the department has established a simulation laboratory which includes an Applied Dynamics-5 analog computer.

### Systems Engineering

The systems engineering program is directed toward the design and analysis of physical systems, including the design of machines, information handling systems, control systems, and other small and large-scale facilities.

Systems engineering is a modern discipline which combines traditional engineering skills with recently developed analytical approaches to modeling, optimization, and control. It is a generalized approach to the analysis and optimum design of systems of any number of interacting elements, which may include the human element, and which is characterized by emphasis on the modeling process for the prediction of system performance.

There is a growing demand for engineers with systems capability. In addition to filling positions as professional systems engineers, graduates may, by their selection of technical electives be qualified in electrical, mechanical or other traditional engineering fields.

The courses required for the degree in systems engineering are outlined below. By electing one of the options listed below, students may prepare themselves for employment or graduate study in the fields of electrical engineering, mechanical engineering or systems analysis and design. Technical electives permit further specialization within an option.

### Bachelor of Science Degree

Systems Engineering	
<i>Core Requirements</i>	<b>128.5</b>
<i>General Education Requirement</i> (waive Area Two)	<b>35</b>
<i>Departmental Unit</i>	<b>38.5</b>
EGR 121, 141, 212, 213, 313	20
EGR 251, 252, 321, 322	18.5
<i>Related Course Requirements</i>	<b>55</b>
MTH 132, 133, 134, 233, 255	25
CS 210	3
CHM 121, 122 or 102 or 103	9
PHY 240, 241, 242	15
QBA 201	3
<i>Electrical Engineering Option</i>	<b>53</b>
EGR 315, 341, 345, 421, 441	
EGR 444, 425, 430, 490, 470	
EGR 426, 435, 491	
<i>Technical Electives*</i>	<b>20</b>
<b>Total</b>	<b>201.5</b>
<i>Mechanical Engineering Option</i>	<b>50</b>
EGR 315, 317, 318, 405	
EGR 421, 425, 426, 430, 432	
EGR 490, 491	
<i>Technical Electives*</i>	<b>23</b>
<b>Total</b>	<b>201.5</b>
<i>Systems Analysis Option</i>	<b>53.5</b>
EGR 315, 323, 341, 421, 425	
EGR 426, 430, 432, 435, 441	
EGR 444, 490, 491	
<i>Technical Electives*</i>	<b>19</b>
<b>Total</b>	<b>201</b>

\*Ten or more hours must be engineering electives; the remainder may be any course numbered 200 or above (except EC 201, 202, 203 and EGR 471) offered by the College of Science and Engineering or the College of Business and Administration. Certain engineering electives are recommended for each of the above options; individual programs are developed by each student and the adviser.

Because of the importance of the order in which science courses are taken, students should adhere closely to the following schedule: *Freshman Year*: EGR 121, 141, 251, 252; MTH 132, 133, 134; ENG 111, 112; CHM 121, 122 or 102 or 103. *Sophomore Year*: MTH 255, 233; CS 210; EGR 212, 213, 313; PHY 240, 241, 242. *Junior Year*: EGR 315, 317, 341, 345; EGR 321, 322, 432; QBA 201. *Senior Year*: EGR 421, 425, 426, 430, 441, 490, 491.



## Packaging Engineering

A program in packaging engineering, as an option of the systems engineering program, is offered in cooperation with the School of Packaging of the Dayton-Miami Valley Consortium. Students who are interested in packaging engineering should contact the Department of Engineering for further information.

## Engineering Physics

Engineering physics is an interdisciplinary program offered jointly by the Departments of Engineering and Physics and is administered by the Department of Engineering. The program contains a core of engineering science, mathematics, and physics courses. This prepares the student for conceptual design, research, and development work in industry or for graduate work in electrical-mechanical engineering, physics, or a combination of these.

The engineering physics program differs from the systems engineering program in that while much of the subject matter is the same, some of it is taught in the physics department where it receives a more generalized and theoretical treatment. For engineering physics majors, a technical elective is defined as any course numbered 200 or higher that is offered by either the College of Science and Engineering or the College of Business and Administration except EC 201, 202, 203, EGR 405, and EGR 471.

The order in which technical courses are taken is very important. Because of this and the various options open to the student, one of the engineering physics advisers should be consulted for curriculum planning. A student's total hours may vary from the 197.5 hours shown because of elective course choices.

### Bachelor of Science Degree

Engineering Physics

General Education Requirement **35**

(waive Area Two)

Departmental Unit **102.5**

EGR 121, 141, 212, 315 13.5

(PHY 420 may be substituted for EGR 315.)

EGR 341, 421, 490, 491 17.5

(Eight hours of PHY 494 and/or PHY 499 may be substituted for EGR 490 and 491.)

EGR 251, 252, 321, 322 18.5

EGR 425, 426 9

EGR 231 1

PHY 230, 240, 241, 242; 200, 201, 202 19

PHY 314, 350, 351, 352 12

PHY 371, 372, 460, 461 12

(A student may select either PHY 460, 461 or PHY 300, 301.)



### Related Course Requirements

MTH 132, 133, 134, 233 20

MTH 255, 256, 333 13

CS 210 3

CHM 121, 122 or 102 or 103 9

### Technical Electives **15**

Must include three of the following courses:

EGR 441, PHY 322, EGR 317, EGR 318

**Total 197.5**

Because of the importance of the order in which courses are taken, students should adhere closely to the following schedule. However, all individual programs are to be planned in consultation with the student's adviser. *Freshman Year:* EGR 141, 251, 252, 231; MTH 132, 133, 134; ENG 111, 112; CHM 121, 122 or 102 or 103. *Sophomore Year:* PHY 240, 241, 242, 200, 201, 202; EGR 212, 121; MTH 233, 255, 256; CS 210. *Junior Year:* EGR 321, 322, 315 (or PHY 420), 341; PHY 230, 350, 351, 352, 371, 372; MTH 333. *Senior Year:* EGR 421, 425, 426; EGR 490, 491 or PHY 494, 499; PHY 460, 461 or 300, 301; PHY 314.



Human Factors Engineering

The program in human factors engineering is a combination of systems engineering and experimental psychology. It is designed for serious students who are interested in people and are willing to understand complex technology.

Graduates of the program can expect immediate employment in research, design, or other engineering activities. They will also be prepared for graduate study in engineering, psychology, or human factors engineering.

Bachelor of Science Degree

Human Factors Engineering	
General Education Requirement	29
(waive Area Two/less PSY 111, 112)	
Engineering Unit	49.5
EGR 141, 251, 252, 121	13.5
EGR 212, 213, 306, 321, 322, 405, 425, 472	36
Psychology Unit	42
PSY 111, 112, 311, 312, 313, 361	22
PSY 371, 372, 373, 443, 444	20
Related Course Requirements	72.5
CS 210	3
MTH 132, 133, 134, 164, 233, 255, 265	31
PHY 240, 241, 242	17.5
CHM 121, 122, or 102, 103	9
BIO 111, 112, 113	12
Technical Electives	8
Free Electives	4
Total	205

Engineering Geology

The program in engineering geology is offered jointly by the Departments of Engineering and Geology. For degree requirements, see Geology.

Environmental Studies

Environmental studies offers an interdisciplinary program that allows students in the College of Science and Engineering to pursue a dual major program. The program allows students from various disciplines who are interested in environmental problems to elect two areas for the Bachelor of Arts degree. One area (e.g. chemistry, geology) trains the student in the requisite skills for that area; the environmental studies component encourages an interdisciplinary perspective with respect to the environment. This shared experience will allow students who pursue careers from their respective disciplines to have resources concerning environmental problems available to them.

The dual major program in environmental studies seeks to provide better informed persons in a variety of vocations. It will provide for a wider range of informed citizens who will be equipped to

make considered value judgments and to use the available legal and political channels in functioning as environmentally responsible citizens. Individual programs are designed with the approval of the adviser for one area and the academic coordinator for environmental studies. Students are required to take a core of courses emphasizing the scientific, social, and humanistic aspects of environmental problems. The internship program provides an opportunity for pursuing individual interests.

Degree Requirements

In addition to fulfilling requirements of the respective department for the Bachelor of Arts, students must fulfill certain requirements for environmental studies. It should be noted that the dual major program will require no more total hours than would be required for a single-major degree program. The following are required for the dual major in environmental studies:

Core Curriculum	18
ENV 111, 112, 113, 211, 212, 213	
Required Elective Courses	22
Selected from an approved list of courses of which 11 hours at the 300 level or above are recommended; may include ENV 411, 499	
Total	40

The following example shows the requirements for a dual major in geology and environmental studies:

Bachelor of Arts Degree

Geology and Environmental Studies	
General Education Requirement	35
(waive Area Two)	
Departmental Requirement	57.5
Related Course Requirement	47
Environmental Studies Core	18
ENV 111, 112, 113, 211, 212, 213	
Related Environmental Courses	22
Electives	5
Total	184.5

The recommended sequence for the environmental studies portion of the dual major is: *Freshman Year:* BIO 111, ENV 111, 112, 113; *Sophomore Year:* ENV 211, 212, 213; *Junior Year:* ENV 411; *Senior Year:* ENV 499.



## Geology

Professors Gregor, Noel, Toman  
Associate Professors Kramer, Malone, Pushkar,  
Richard, Schmidt (chairman)  
Assistant Professors Larson, Sherwin  
Instructor Strickland

The Department of Geology offers degree programs leading to the Bachelor of Science and Bachelor of Arts degrees with a major in geology. Both programs are designed to include geology and related sciences and to prepare students for graduate study or professional employment. The Bachelor of Arts program is intended to be more flexible and to permit students with either broad or specialized interests to fulfill their program needs. The Bachelor of Science program is more highly structured and, through the various options offered, is intended to prepare students for rather specific professional or technical objectives. The Bachelor of Arts program with intended flexibility readily permits interdisciplinary programs such as the dual major, in which a student may major in two quite different fields simultaneously. Prospective geology majors are urged to consult their advisers before pursuing a specific program or objective.

The department has modern equipment for use in teaching and individual student investigations. Comparison and research collections in both paleontology and mineralogy are maintained. Students are encouraged to take advantage of the department's special competence in areas of geophysics, engineering geology, hydrogeology, and geochemistry-mineralogy.

Field geology is taught at the Wright State Geological Field Station in Maryville, Tennessee, near Smoky Mountain National Park. The station is adjacent to the western end of the Smoky Mountains and field areas in several different geologic and physiographic provinces are readily accessible. Field trips are taken to mines and related geologic areas in eastern Tennessee and western North Carolina.

The department has endeavored to offer a broad spectrum of educational options within a framework of sound academic guidelines, because personal objectives, interests, and aptitudes vary considerably with each individual. A student majoring in geology has considerable choice in basic program, options, and elective courses. The student should be aware of these choices as early as possible, and because course sequencing, particularly in Bachelor of Science options, is a critical factor, each student is strongly urged to consult his or her adviser to develop an individual program.

Supporting electives are courses in science and engineering (exclusive of geology and psychology) that are not normal preparation or prerequisite for required courses.

Minor modifications in departmental programs will be made from time to time and it is the responsibility of the student to confer with his or her adviser periodically during the academic year, preferably once each quarter before each registration period.

### Requirements for the Bachelor of Science Degree in Geology

The Bachelor of Science in geology program has three options: general geology, engineering geology, and geophysics. The course requirements and recommended course sequences for each are given below.

#### Bachelor of Science Degree

General Geology Option	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>76.5</b>
GL 151, 152 (or 101, 102), 203, 301, 311	23
GL 410, 412, 430, 433, 434	30
Geology electives	23.5
<i>Related Course Requirements</i>	<b>71-72</b>
CHM 121, 122, 141	13.5
PHY 240, 241, 242 (labs required) or PHY 111, 112, 113, 209	19.5-20.5
MTH 132, 133 or equivalent	10
Supporting electives from College of Science and Engineering	28
<i>Electives</i>	<b>15</b>
<b>Total</b>	<b>197.5</b>

The following courses are suggested for the freshman year: ENG 111, 112; GL 151, 152, 203; CHM 121, 122, 141. Following the freshman year, the departmental adviser should be consulted for program planning.

#### Engineering Geology Option

The Department of Geology, in cooperation with the Department of Engineering, offers a comprehensive program leading to a Bachelor of Science with an engineering geology option.



### **Bachelor of Science Degree**

Engineering Geology Option	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>90</b>
GL 151, 152 (or GL 101, 102), 203	12.5
GL 311, 456, 457, 429, 434, 451	31
EGR 141, 212, 313; CS 210	20.5
Geology or Engineering Electives	26
<i>Related Course Requirements</i>	<b>53</b>
CHM 121, 122, 141	13.5
MTH 132, 133, 134, 233	20
PHY 240, 241, 242 (labs required)	19.5
<i>Electives</i>	<b>20</b>
<b>Total</b>	<b>198</b>

The following courses are suggested for the freshman year: ENG 111, 112; GL 151, 152, 203; CHM 121, 122, 141. Following the freshman year, the departmental adviser should be consulted for program planning.

### **Geophysics Option**

The Department of Geology, in cooperation with the Department of Physics, offers a Bachelor of Science in geology with a geophysics option. This program will prepare the student to assume a career in this field or to pursue graduate study in geophysics.

<b>Bachelor of Science Degree</b> Geophysics Option	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>113.5–115.5</b>
GL 151, 152, 203	12.5
GL 301, 311, 434, 410	25.5
GL 412, 423, 424, 425, 426, 427	17
PHY 240, 241, 242, 230, 430	25.5–27.5
Geology or Physics Electives	33
<i>Related Course Requirements</i>	<b>36.5</b>
CHM 121, 122, 141	13.5
MTH 132, 133, 134	15
CS 141, 142	8
<i>Electives</i>	<b>16</b>
<b>Total</b>	<b>201–203</b>

The recommended sequence is as follows:

*Freshman Year:* ENG 111, 112; GL 151, 152, 203; CHM 121, 122, 141; MTH 132, 133, 134.

*Sophomore Year:* PHY 240, 241, 242; GL 301, 411, 412; General Education. *Junior Year:* CS 141, 142; PHY 430, 230; GL 312, 434. *Senior Year:* GL 423, 424, 425, 426, 427; geology electives; physics or mathematics electives; General Education.

### **Requirements for the Bachelor of Arts Degree in Geology**

The Bachelor of Arts curriculum is designed for students who desire scientific training, especially through interdisciplinary programs, and who may or may not intend to pursue a career as a professional scientist in the field of geology. Because of its broader and more flexible approach, students who elect to follow a Bachelor of Arts program must demonstrate specific educational objectives that can reasonably be attained through this program.

<b>Bachelor of Arts Degree</b> Geology	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>57.5</b>
GL 151, 152, 203, or equivalent	12.5
GL 311, 430, 433, 434	22.5
Geology electives	22.5
<i>Related Course Requirements</i>	<b>47–48.5</b>
BIO 111, 112, 113 or	
PHY 111, 112, 113 or	
CHM 121, 122, 141	12–13.5
Supporting electives	25
Mathematics	10
<i>Electives</i>	<b>45</b>
<b>Total</b>	<b>184.5–186</b>

### **Mathematics**

Professors Gorowara (chairman), Sachs  
Associate Professors Belna (WOBC), Coppage,  
Haber, Lee, Lewkowicz, L. Low, M. Low, Maneri,  
Mazumdar, Meike, Park, Schaefer, Silverman  
Assistant Professors Alf, Bastian, Dombrowski,  
Fricke, Lee, Smith, Whitson  
Instructor Rife (WOBC)

The Department of Mathematics offers programs leading to the Bachelor of Arts, Bachelor of Science, and Master of Science degrees in mathematics. The Bachelor of Science candidate may select a concentration in pure mathematics,



applied mathematics, statistics, or computing. Bachelor of Arts candidates may take the regular program or may elect to participate in a dual major with another department. The College of Education offers a Bachelor of Science in Education with a major in mathematics.

Mathematics majors must satisfy the requirements of one of the programs outlined below. Courses to satisfy the mathematics requirement must be selected from required and recommended mathematics courses and mathematics electives. Students must have a least a 2.0 average in mathematics courses numbered 300 or higher. Some programs include recommended and required courses outside the department. Electives should be chosen to form a concentration in a particular area; the department should be consulted on these.

Students who have completed two courses from among MTH 431, 451, 457, and 462 with a grade of A may undertake an honors program with the guidance and approval of a member of the mathematics department. Students who do not meet this requirement may petition the department for permission to pursue a mathematics honors program. Further information is available from the department office.

Model programs are available from the department and the College of Science and Engineering. In planning a program of study, careful attention should be given to the sequence of courses. All programs should be worked out in consultation with the student's academic adviser.

### **Bachelor of Science Degree**

Pure Mathematics Concentration	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
Recommended courses: PHL 123, 323, 423	
<i>Departmental Requirements</i>	<b>69</b>
Required Courses	48
MTH 132, 133, 134, 233, 255, 256, 431, 432, 433, 451, 452, 453	
Recommended Courses	9
MTH 280, 434, 435	
Elective Courses	12
MTH 310, 333, 360, 381, 396, 423, 436, 437, 438, 439, 456, 457, 458, 461, 462, 463, 464, 465, 471, 472, 475, 486, 488, 492, 496, or any 700-level course with approval of graduate division; CS 316, 317	
<i>Related Course Requirements</i>	<b>27.5</b>
CS 141, 142	8
PHY 240, 241, 242 (labs required)	19.5
<i>Electives</i>	<b>56</b>
Foreign language recommended	
<b>Total</b>	<b>187.5</b>

### **Bachelor of Science Degree**

Statistics Concentration	
<i>General Education Requirement</i>	<b>47</b>
Recommended courses: EC 201, 202, 203; PHL 123, 323, 423	
<i>Departmental Requirements</i>	<b>70</b>
Required Courses	47
MTH 132, 133, 134, 255, 256, 360; 461, 462, 463, 431, 432, and 433 or an upper division course chosen in consultation with the adviser and the statistics group	
Recommended Courses	
CS 316, 317; MTH 233, 280, 464, 465	
Elective Courses	
MTH 310, 333, 434, 435, 355, 386, 396, 433, 436, 437, 438, 439, 451, 452, 453, 456, 457, 458, 471, 472, 486, 488, 492, 496	
<i>Related Course Requirements</i>	<b>8</b>
CS 141, 142	
<i>Electives</i>	<b>58</b>
<b>Total</b>	<b>183</b>

### **Bachelor of Science Degree**

Applied Mathematics Concentration	
<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>60</b>
Required Courses	
MTH 132, 133, 134, 233, 255, 256	30
MTH 333, 434, 435, 431, 432, 433, 456	21
One of the following sequences:	9
MTH 461, 462, 463	
MTH 461, 464, 465	
MTH 436, 437, 438	
<i>Related Course Requirements</i>	<b>37.5–44.5</b>
CS 316, 317	8
PHY 240, 241, 242 (labs required)	19.5
Two of the following sequences:	
PHY 371, 372	6
PHY 350, 351, 352	9
PHY 420, 421	6
PHY 322 or 442	4
EGR 317, 318	8
<i>Electives</i>	<b>48–55</b>
<b>Total</b>	<b>187.5</b>



## Bachelor of Science Degree

### Computing Concentration

<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Requirements</i>	<b>48</b>
MTH 132, 133, 134, 233, 255, 256	30
MTH 310, 355, 461	9
Three of the following: MTH 431, 432, 433, 456, 457, 458, 462, 463, 464, 465	9
<i>Related Course Requirements</i>	<b>28</b>
CS 141, 142, 400; 316, 317	20
CS 430, 431 or CS 402, 405	8
<i>Electives</i>	<b>60</b>
Recommended: CS 152, 300, 301; MTH 280	
<b>Total</b>	<b>183</b>

## Bachelor of Arts Degree Mathematics

<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Requirements</i>	<b>63</b>
<i>Required Courses</i>	
MTH 132, 133, 134, 255, 256, 280	28
MTH 431, 451, 440, 471, 472	15
MTH 432 or 452; MTH 461 or 360	6-7
<i>Elective Courses</i>	
MTH 233, 310, 333, 434, 435, 355, 360, 381, 423, 432, 433, 436, 437, 438, 439, 441, 442, 452, 456, 457, 458, 461, 462, 463, 464, 475, 488	
<i>Recommended Courses</i>	
MTH 441, 442 (recommended for certification students)	
<i>Related Course Requirements</i>	<b>35</b>
CS 141, 142	8
Nine courses (ED 429 may count as more than one) taken outside College of Science and Engineering; at least three courses taken in one department. These may not count toward General Education requirement.	27
<i>Electives</i>	<b>38</b>
<b>Total</b>	<b>183</b>

## Bachelor of Arts Degree

### Mathematics Dual Major

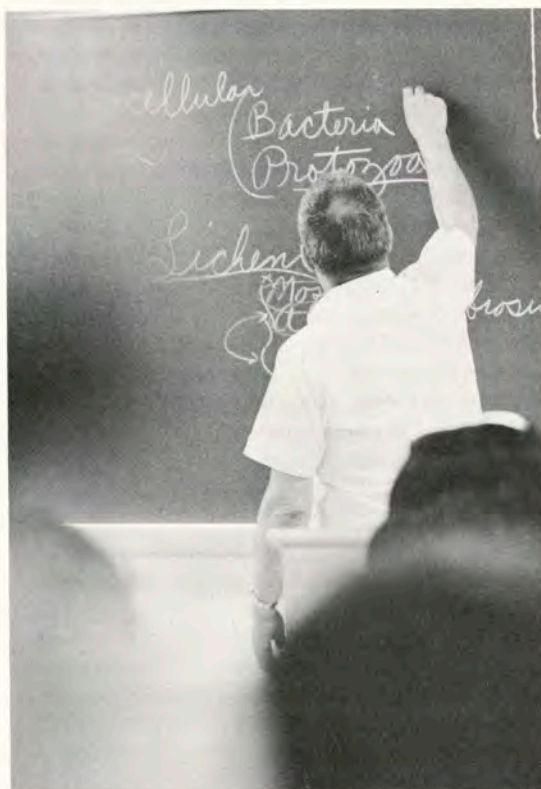
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Requirements</i>	<b>54</b>
<i>Required Courses</i>	
MTH 132, 133, 134, 255, 256	25
MTH 431, 432, 433 or 451, 452, 453	9
MTH 360 or 233	4-5
<i>Electives</i>	
MTH 233, 280, 310, 333, 434, 435, 355, 356, 360, 381, 423, 431, 432, 433, 436, 437, 438, 439, 451, 452, 453, 456, 457, 458, 461, 462, 463, 464, 465, 475, 488	15-16
<i>Related Course Requirements</i>	<b>8</b>
CS 141, 142	
This program must be integrated with a corresponding program from another participating department.	

## Microbiology

Professors Bigley (chairman), Kochan, Suriano  
Associate Professors McFarland, Moss

The Department of Microbiology offers an introductory course in microbiology as well as a number of advanced courses. The introductory course is intended for health science majors, with the exception of medical technologists. The advanced courses provide an area of concentration for life science majors. The courses offered develop concepts of diagnostic microbiology, principles of immunology, the biology of host-parasite interaction, the structure/function relationship unique to microorganisms. An area of concentration in microbiology prepares the student for graduate study in microbiology or further training as a microbiology laboratory technologist.

Students who enroll in courses at the 400 level should have completed the biological sciences sequence through BIO 402 as well as CHM 211, 212, 213, and 312.





## Physics

Professors Hanson, Martin (chairman)  
Associate Professors Andrews, Hemskey, Ling,  
Listerman, Simpson, Thomas, Wolfe, Wood

The Department of Physics offers a program leading to a Bachelor of Science with a major in physics. The Department of Physics and the Department of Engineering jointly offer a program leading to the Bachelor of Science in engineering physics; see engineering. Students in secondary education may major in physics and earn the Bachelor of Science in Education awarded by the College of Education; see physics education.

Minimum requirements for a Bachelor of Science with a major in physics include successful completion of the required courses below, as well as the completion of university and college degree requirements.

In addition to the required courses, it is recommended that every physics major take the following courses: PHY 150, 151, 152, 421, 430, 442; BIO 111, 112, 113. The physics major planning graduate study is also strongly urged to take the following courses: PHY 480, 481, 482; one to two years of a foreign language, either French, German, or Russian; and additional mathematics courses.

### Bachelor of Science Degree Physics

<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>63</b>
PHY 240, 241, 242, 243, and PHY 200,	
201, 202; or equivalent	17
PHY 260, 371, 372	10
PHY 314 (repeated)	6
PHY 450, 451, 452; 420, 460, 461, 462	21
PHY 494 or 499 (three quarters)	9
<i>Related Course Requirements</i>	<b>53.5</b>
MTH 132, 133, 134, 233, 255, 256	30
MTH 332, 333	6
CHM 121, 122, 141	13.5
CS 141	4
<i>Electives</i>	<b>43.5</b>
<b>Total</b>	<b>195</b>

Since the order in which courses are taken is important, students should adhere closely to the following suggested program. *Freshman Year:* PHY 240, 241, 242, 200, 201, 202, 150, 151, 152; MTH 132, 133, 134; ENG 111, 112. *Sophomore Year:* PHY 243, 260, 371, 372, 314 (two quarters); CS 141; MTH 233, 255, 256; CHM 121, 122, 141. *Junior Year:* PHY 350, 351, 352, 420, 421; MTH 333, 332; BIO 111, 112, 113. *Senior Year:* PHY 460, 461, 462, 494 or 499 (three quarters), 442.

The results of the mathematics placement examination will be used to determine the proper initial mathematics course; see mathematics course descriptions. If a student does not have a strong science and mathematics background, the student might choose to delay PHY 240, 241, 242 until the sophomore year. These schedules would require some adjustment of the junior and senior year curricula. An adviser should be consulted as soon as possible to arrange a suitable program.

The Department of Physics encourages students with interdisciplinary interests to pursue a dual major in physics and a related discipline. A departmental adviser will help each student arrange a suitable program of study. In addition, there are two formal physics degree option programs which are outlined below. The department has model programs for each option which are available on request.

### Biology Option

The Department of Physics in cooperation with the Department of Biological Sciences offers a program leading to a Bachelor of Science in physics with a biology option. This option is designed for students who plan a physics career in a biology-related setting or who want to pursue graduate study in biophysics.

Students following the physics program with the biology option must meet the requirements of the basic physics degree program. In addition, the following courses are required:	
BIO 111, 112, 114	12
PHY 430	4
BIO 492 (biophysics emphasis)	1
CHM 211, 212	12
Electives chosen from: BIO 210, 310, 316, 213, 421, 422	10

In addition to these required courses, it is recommended that students pursuing the biology option take PHY 150, 151, 152.

### Geophysics Option

The Department of Physics in cooperation with the Department of Geology offers a program leading to a Bachelor of Science in physics with a geophysics



option. This option is designed for students who plan a career in physics in a geology-related setting or who plan to pursue graduate study in geophysics.

Students following the physics program with the geophysics option must meet the requirements of the basic physics degree program, except that only six hours of PHY 494 are required. In addition, the following courses are required:

GL 151, 152; or GL 101, 102	8
PHY 430	4
PHY 423, 424, 425	11
Electives chosen from: GL 301, 312, 410, 412, 417, 433, 451	15

In addition to these required courses, it is recommended that students pursuing the geophysics option also take PHY 150, 151, 152, and GL 434. Students should also participate in the geophysics seminars.

## Physiology

Professors Johnson, Kolmen (chairman)  
Associate Professors Nussbaum, Wiley  
Assistant Professors Davis, Frey, Glaser, Gotshall, Phillips  
Adjunct Associate Professor Bajpai

The Department of Physiology provides a curriculum serving the needs of students who are planning to enter into medicine, nursing, or other health-related professions. Although the department does not offer a degree in physiology, a student may develop a heavy concentration in physiology as part of the Bachelor of Science degree in biological sciences. The Department of Physiology will advise students desiring a concentration in this medically-oriented discipline.

## Psychology

Professors Crampton (chairman), S. J. Klein, MacKinney, Wilson  
Associate Professors Campbell, Colle, H. Klein, Kruger, Moss, Page  
Assistant Professors Balloun, Davis, Stericker, Vestewig, Wilke (WOBC)

The Department of Psychology offers programs leading to the Bachelor of Science and the Bachelor of Arts degrees. Both degree programs are designed to give the student a broad introduction to the subject matter of contemporary psychology.

Three concentrations are included in the Bachelor of Arts curriculum. The academic concentration permits the greatest flexibility in selecting electives outside of psychology. Students who plan to seek employment in psychology and related areas after completing a baccalaureate degree may consider one of two additional concentrations: applied sciences for mental health fields, or applied sciences for business and industry. Students may apply to enter these concentrations during their junior year, take specified courses, and complete a practicum during their senior year.

The Bachelor of Science program is tailored directly to meet graduate school requirements. Graduate schools expect applicants to have a background in introductory or general psychology, experimental psychology with laboratory, and statistics. Beyond these courses, there are few specific requirements. Students planning to apply to graduate schools should seek a broad background in psychology rather than highly specialized undergraduate training. A basic curriculum should include courses in introductory psychology, statistics and experimental design, laboratory courses, survey courses in the major content areas, and a few advanced electives.

The following courses are suggested for the freshman year: PSY 111, 112; BIO 111, 112, 114; MTH 127 or 130; ENG 111, 112; and selected courses from General Education Area Three. Well-prepared students should also take PSY 311 and MTH 164. Following the freshman year, students are advised to obtain supplementary materials from the department and to work closely with their assigned advisers. Credit hours in psychology may not be less than sixty-two nor more than eighty-eight.



**Bachelor of Arts Degree Psychology**

Academic Concentration	
<i>General Education Requirement</i>	<b>47</b>
<i>Departmental Requirements</i>	<b>62</b>
PSY 111, 112, 311, 312, 313, 481	22
Five of the following:	20
PSY 331, 341, 351, 361, 371, 391	
One from each of the following:	
PSY 332, 342, 352	4
PSY 362, 372, 392	4
PSY 333, 343, 353, 363, 373, 393	4
Plus two 400 level electives in psychology (courses and/or seminars)	8
<i>Related Course Requirements</i>	<b>17–22</b>
MTH 127 or 130, 164, 265	9
Skills Sequence:	
Three quarters foreign language or CS 141, 142 or	12
MTH 131, 132, 133	8
<i>Electives</i>	13
<b>Total</b>	<b>52–57</b>
	<b>183</b>

**Concentration in Applied Sciences for Mental Health Fields**

The academic concentration requirements apply, except that certain courses will be taken in lieu of electives. These courses include MTH 130, PSY 437, PSY 439, and the practicum PSY 432, plus such courses from other departments and colleges as decided after consultation with the adviser for this concentration. Participation in this concentration by application only.

**Concentration in Applied Sciences for Business and Industry**

The academic concentration requirements apply, except that certain courses will be taken in lieu of electives. These courses include MTH 130, PSY 443, PSY 444, and the practicum PSY 432, plus such courses from other departments and colleges as decided after consultation with the adviser for this concentration. Participation in this concentration by application only.

**Bachelor of Science Degree Psychology**

<i>General Education Requirement</i>	<b>35</b>
(waive Area Two)	
<i>Departmental Requirements</i>	<b>70</b>
PSY 111, 112, 311, 312, 313, 481	22
PSY 331, 341, 351, 361, 371, 391	24
One course from each of the following:	
PSY 332, 342, 352	4
PSY 362, 372, 392	4
PSY 333, 343, 353	4
PSY 363, 373, 393	4
Plus two 400 level electives in psychology (courses and/or seminars)	8
<i>Related Course Requirements</i>	<b>22–27</b>
MTH 130, 164, 265, 132	14–15
(MTH 224, 225 may be substituted for MTH 132.)	
Skills Sequence	
Three quarters foreign language or	12
CS 141, 142 or	8
MTH 131, 132, 133	13
<i>Laboratory Science (six lecture courses, not less than eighteen hours)</i>	<b>18</b>
<i>Electives</i>	<b>33–38</b>
<b>Total</b>	<b>183</b>

**Additional Requirements for the Departmental Honors Program**

Application for admission to the program should be made before the beginning of the senior year, usually at the end of the sophomore year. After acceptance, the student will enroll in one departmental honors seminar each academic year. Part-time students must complete one honors seminar prior to graduation. Each student must complete an honors thesis, for which academic credit is granted.

**Courses for Nonmajors**

The Department of Psychology offers courses in personality (301), social psychology (302), child psychology (303), industrial psychology (304), abnormal psychology (305), and tests and measurements (307), for students majoring in other disciplines. PSY 200, Contemporary Problems, and PSY 306/EGR 306, Engineering Psychology, are offered to both majors and nonmajors.



# School of Nursing





**Gertrude Torres** Dean  
**Marjorie Stanton** Associate Dean

Professors Stanton, Torres  
Assistant Professors Deane, Falco, Kinney  
Instructors Battigaglia, Bennett, Cross, Foster,  
Furukawa, George, Hale, Hetrick, Holdcraft, Lobo,  
Swartz, Syzek

The nursing program, which leads to a Bachelor of Science in Nursing degree, is designed to suit students' individual needs. The school offers a multiple tract system as an option to allow students either to accelerate or to proceed at a more modest pace, permitting them to complete baccalaureate degree requirements in as little as three years or as long as six. Registered nurses are admitted into the program.

The nursing program at Wright State is approved by the Ohio State Board of Nursing Education and Nurse Registration and the Ohio Board of Regents. Graduates of the program are eligible for the State Board Test Pool Examination.

### **Admission and Promotion**

The baccalaureate program in nursing is an upper division major and admission to Wright State does not automatically ensure admission to the School of Nursing.

Advising for prenursing students is done by the University Division. Students admitted to the School of Nursing will be advised in the University Division until they have achieved sophomore status in terms of the curriculum of the School of Nursing. Students in the sophomore, junior, and senior level of the School of Nursing curriculum and registered nurses will be assigned faculty advisers.

Admission to the School of Nursing is granted on a competitive basis. The number of students accepted for admission is limited by the availability of resources for quality education. Admission forms are available in the Office of Admissions. Students must show proof of high school graduation or its equivalent and be admitted to Wright State University as a matriculant (degree-seeking) student to be considered for admission to the School of Nursing.

Competitive admission to the school is based on the following criteria:

*New freshman students*—ACT scores, high school grades and rank, and composite grade from previous science courses taken.

*Students with 1 to 35 quarter hours of college work*—ACT scores, high school grades and rank, composite grade for previous science courses taken and college cumulative grade point average.

*Students with 36 quarter hours or more of college credit*—cumulative grade point average (only 2.0 or above will be considered).

All students must be certified by a physician to be of good health and capable of actively participating in clinical experiences before they enter clinical nursing courses. This certification must be repeated each year.

Students must provide their own transportation to all clinical facilities and all students in clinical nursing courses must carry liability insurance. Forms are available in the School of Nursing office.

Nursing students have the opportunity to earn credit by examination in all nursing courses except NUR 414, an elective, and NUR 415, independent





study. Credits from other baccalaureate degree nursing programs are evaluated on an individual basis.

Students are required to earn a grade of C or better in all nursing courses. Grades in these courses are based on the student's performance in both the classroom and in the clinical laboratory. Students must maintain a 2.0 total cumulative point average to continue in nursing courses.

In the following curriculum, it is essential that students take courses in the designated sequence, especially the upper division nursing courses:

**First Year**—(nonsequential, except as dictated by department). ENG 111, 112; CHM 101 or 121 and 102; SOC 111 and 112; PSY 111 and 112; NUR 111; SPC 102; ANT 201, 202; BIO 112 may be required, depending on background.

**Second Year**—(sequential, except as dictated by department). Fall—PHS 218, BCH 370; Winter—PHS 219, MIC 220; Spring—NUR 211; BCH 340; nonsequential—PSY 303, ATH elective, one philosophy or religion elective.

**Third Year**—(sequential) Fall—NUR 311, SOC 206 or 360; Winter—NUR 312; SOC 206 or 360; Spring—NUR 313, PSY 305; nonsequential—PLS elective, one philosophy or religion elective, humanities elective.

**Fourth Year**—(sequential) Fall—NUR 411; Winter—NUR 412; Spring—NUR 413; nonsequential—NUR 414 or 415, two humanities electives, one philosophy or religion elective.

The School of Nursing reserves the right to change the course requirements or the sequence. If a student chooses the multiple tract system, the above sequence will still be followed although the student will not take the course in the quarter indicated.

**Bachelor of Science in Nursing Degree**

<i>General Education and Related Course Requirements</i>	<b>104</b>
Supporting courses—sciences, psychology, sociology	68
Humanities—English composition, philosophy and religion, political science elective, anthropology elective, speech, and electives as listed in Area Three, Group B of General Education requirements or approved by School of Nursing	36
<i>Nursing requirement</i>	<b>67</b>
<i>Free electives</i>	<b>21</b>
<b>Total</b>	<b>192</b>

Following is a formal statement by the School of Nursing concerning its philosophy and expectations of its graduates.

**Philosophy**

The faculty of the School of Nursing supports Wright State University's purposes relating to teaching, research, and service. We believe in the acquisition of knowledge from the past and present, as well as exploration of new knowledge, in the advancement of lifelong learning, the search for basic truth, and in the commitment of the university to solve problems affecting the larger community.

Man, as a biological, psychological, social, spiritual being is constantly changing and interacting with the environment. Man, being unique, must be viewed holistically, which is different from and more than the sum of his component parts. Man may be viewed from a conceptual frame of reference in terms of his ability to adapt in relation to his developmental needs. As a thinking, creative, dignified, rational being, man functions within a set of values.

Society is composed of individuals, families, and communities sharing a variety of common goals and values which change as the interests and needs of the members change. Social change evolves through the mutuality of relationships and the interaction of political and social forces which affect the individual's rights, responsibilities, and obligations. These dynamic forces directly and indirectly determine the values and expectations placed upon the health care system as an integral part of society. Man and his interaction with the health care system is a reciprocal experience in which health care personnel recognize their responsibilities.

Health is the dynamic state of human functioning whereby the individual continually adapts to internal and external stresses as he attempts to achieve his maximum potential for daily living. Man's ability to adapt is influenced by his inherent capabilities, his growth and development, his cultural environment, and his perception of his own needs. At any given point in time, the availability of a variety of resources will influence the health of an individual.



The practice of professional nursing is humanitarian in nature and requires a knowledge base from the arts and sciences. The integration of scientific and nursing concepts and theories, attainable through research, gives direction to this practice. The nursing process is interpersonal in nature. In its totality, it includes assessment, diagnosis, planning, and implementation and evaluation, and is the essence of professional practice. The nursing process is utilized in the context of the care, nurturance, and protection of individuals and groups in relation to their state of health.

The emerging role of the nurse practitioner involves a greater amount of independence in the practice and an increasing accountability to the consumer of health and nursing care. This can be achieved through individualized care given on a continuous basis over an extended period of time. The professional nurse will increasingly be viewed as the nucleus of the health care system, as well as an advocate for the consumer. Through leadership and interaction skills, the nurse will coordinate, collaborate, and consult in consortium with the client and other health and nursing practitioners, especially in the areas of health promotion and maintenance.

Learning is a dynamic lifetime growth process of behavioral changes which involves the developing of maximum potential through a spirit of inquiry and self-motivation. Learning is sequential by nature which combines the cognitive, affective, and psychomotor components. Since learning is an integrative process, it embraces all experiences that dignify and mature the individual learner whether the experience be in a group or isolated setting. The learner has responsibility for independence, self-direction, and reaching a level of self-fulfillment based on individual motivation and readiness in terms of the total resources of the individual. The educator has responsibility for determining and implementing quality education which is accomplished through counseling, guiding, and challenging the student in an atmosphere conducive to learning.

### **Characteristics of the Graduate**

The characteristics of the graduate are stated as broad objectives to be descriptive and follow the framework of the philosophy in that they focus on man, society, health, professional nursing, and learning. These objectives are viewed by the faculty as representative of a commitment to quality nursing care, to the student, and to the consumer of health care. These objectives serve as essential guidelines to the faculty and students, especially in matters relating to the curriculum. The graduate will be able to:

Assess and diagnose the health status of individuals, families, and communities; plan, implement, and evaluate nursing care in any setting within and outside the health care delivery system.

Integrate theories and/or concepts related to the arts, sciences, and nursing into practice as a professional nurse.

Provide professional nursing care based on an understanding and commitment to the dignity and worth of the individual, his life cycle, and his ability to adapt based on his needs in relation to his health status and potential.

Utilize the interpersonal process in providing care, nurturance, and protection to individuals, families, and communities.

Function as the nucleus of the health care professionals utilizing leadership and interactive concepts and theories to coordinate, collaborate, and consult on matters related to the nursing care.

Recognize professional responsibility and accountability to, and advocacy for, the consumer of nursing care.

Recognize the impact of political, cultural, and social forces on the health care system.

Utilize the change process to influence the political, cultural, and social systems toward improving health and nursing care as it relates to the emerging role of the professional nurse.

Demonstrate responsibility for self-direction in the lifelong process of learning by participating in activities that contribute to personal and professional growth.

Utilize nursing research as a means of improving practice, as well as gather reliable and accurate data for extending nursing science.



# Branch Campuses





**James K. Uphoff** Dean, Branch Campuses

**James D. Robenstine** Assistant Dean, Western Ohio Branch Campus

**Joseph Gatton** Director, Piqua Resident Credit Center

Professor Uphoff

Associate Professors Belna, Myron, Robenstine, Stuckman

Assistant Professors Beaver, Custenborder, Gatton, Ghosh, Holmes, Hudson, Kader, Kauffman, Motes, Norris, Petersohn, Wilke

Instructors Burton, Hagen, Hawley, Kelly, Kremer, Kwiatkowski, Moliterno, Muhlenkamp, Rife, Rohr, Snyder, Strickland, Tomlinson, Wetter, M. Wood

### **Western Ohio Branch Campus**

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The Western Ohio Branch Campus (WOBC) became part of Wright State University in July 1969. Classes were held in downtown Celina until September 1972, when a new campus, located on the north shore of Grand Lake St. Marys between Celina and St. Marys, was opened. Dwyer Hall, the first building on the new campus, contains laboratories, classrooms, faculty and administrative offices, the library, an auditorium, and student service facilities.

Dwyer Hall and the 173-acre campus are the result of a state appropriation and the contributions of many individuals and groups in the surrounding communities who sought to provide opportunities for youth and adults in the area to pursue university work of high quality at a reasonable cost. The location of the campus enables many students to earn approximately half their degree requirements without extensive commuting and to hold part-time jobs while in attendance. Students who do not plan to complete a degree program can further their education through selected courses of individual interest. Classes are scheduled during both day and evening hours.

A wide selection of courses covering the first two years is available in the humanities, the social sciences, the sciences, mathematics, education, and business. Selected courses at the junior, senior, and graduate levels are offered based upon demand, library resources, and the availability of qualified faculty. Noncredit courses are offered to the community at a nominal charge when there is sufficient demand.

The Western Ohio Branch Campus has a highly qualified resident faculty of sufficient size to provide instructors for nearly all courses offered. Academic advising and counseling services are available at the branch campus.

The WOBC has its own student government which initiates, supports, and supervises

extracurricular activities. The student government sponsors the College Community Arts Program which brings to the campus outstanding musical, dramatic, lecture, and film presentations. The basketball club competes against other branch campuses and technical colleges in Ohio and junior colleges in Indiana.

### **Piqua Resident Credit Center**

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Late afternoon and evening courses are provided in Piqua for residents of the upper Miami Valley. Courses at the advanced and graduate levels are scheduled to meet the needs of the residents of the area. Students may register for part-time or full-time programs of study at Piqua and may also avail themselves of course offerings at the main campus in Dayton and at the Western Ohio Branch Campus. Resident faculty and faculty from the main campus provide instruction for most course offerings. Academic counseling is provided by resident staff members and by representatives of the various academic units of the university.

### **Associate of Arts Degree**

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The Western Ohio Branch Campus offers a two-year Associate of Arts degree program that introduces the student to the major disciplines of the humanities, the natural and social sciences, and mathematics. The program includes the university's General Education requirements. There is sufficient flexibility to permit students to tailor their programs to provide the background required for transfer to baccalaureate degree programs at Wright State University or at another college or university. Area concentrations are available in the humanities and social sciences, elementary education, business and administration, and several areas of specialization in science and engineering. Specific requirements for the Associate of Arts program are available from the branch campus office.



## Technical Programs

Two-year technical education programs leading to the associate degree have been offered at the Western Ohio Branch Campus since September 1974. Graduates of the technology programs will be qualified to work in industry, business, or service organizations. Approximately half the work for these programs is devoted to General Education.

### Accounting Technology

Accounting technology is that part of the business field requiring the application of accounting principles and procedures to provide the users of accounting data with useful and reliable information. This program provides students with basic instruction in mathematics, English, business, and technical accounting subjects.

The accounting technology program gives students a strong background in business so that they may immediately take a position in the accounting area or transfer to the Wright State University baccalaureate program with a minimum of difficulty. All of the General Education and nine hours of the technical accounting courses will transfer without loss of credit and be applied toward the baccalaureate degree.

### Associate of Applied Business

Accounting Technology	
<i>General Education</i>	<b>17</b>
ENG 111, 112	8
PSY 111, 112 or SOC 111, 112	6
SPC 101 or 203	3
<i>Business Courses</i>	<b>15</b>
TAD 101, 103	6
EC 201, 202, 203	9
<i>Technical Courses</i>	<b>52</b>
TEN 115, 116	6
TAD 232	3
TMT 110, 111	6
TAC 201, 202, 203	9
TAC 210, 211	6
TAC 220, 221, 225, 226	12
TAC 299	4
TQB 210, 211	6
<i>Electives</i>	<b>9</b>
<b>Total</b>	<b>93</b>

## General Secretarial Technology

The program in general secretarial technology leads to the Associate of Applied Business degree. This two-year program combines a strong background in general education, office practice, and business training. Graduates are prepared to assume responsible positions in a variety of business and service areas.

The program is open to students who have had no secretarial training as well as to those who possess typing and shorthand skills. Students with experience can gain credit for basic courses through proficiency examinations. The learning environment in skills courses enables students to progress at their own pace. Graduates will be qualified for positions in all types of offices except those where specialized nomenclature skills and languages are required.

### Associate of Applied Business

General Secretarial Technology	
<i>General Education</i>	<b>14</b>
ENG 111, 112	8
PSY 111, 112	6
<i>Business Courses</i>	<b>15</b>
TAD 101, 103	6
EC 201, 202, 203	9
<i>Technical Courses</i>	<b>55</b>
TEN 115, 116	6
TAC 201, 202, 203	9
TOA 201, 202, 203	9
TOA 211, 212, 213	9
TOA 221, 222, 223	9
TOA 233, 234, 237, 299	13
<i>Electives</i>	<b>9</b>
<b>Total</b>	<b>93</b>

Students should plan their program in consultation with an adviser. Since the order in which courses are taken is important, students are advised to adhere closely to the following schedule: *Freshman Year*: ENG 111, 112; TEN 115; TAD 101, 103; TOA 201, 202, 203, 211, 212, 213; TAC 201, 202, 203. *Sophomore Year*: TEN 116; PSY 111, 112; EC 201, 202, 203; TOA 221, 222, 223, 233, 234, 237, 299.

Since the order in which courses are taken is very important, students should plan their program in consultation with an adviser. The following sequence is suggested: *Freshman Year*: EC 201, 202, 203; ENG 111, 112; SPC 101 or 203; TAC 201, 202, 203; TAD 101, 103; TEN 115; TMT 110, 111. *Sophomore Year*: PSY 111, 112 or SOC 111, 112; TAC 210, 211, 220, 221, 225, 226, 299; TAD 232; TEN 116; TQB 210, 211.



**Business Management Technology**

The business management program is designed to qualify graduates for middle-level management positions in business, industry, or government. Modern organizations require large numbers of technically qualified, well-trained people to manage them. Many concepts, skills, and techniques can be learned best in technically oriented business management courses. In the sixth quarter, the internship provides an opportunity to relate knowledge to the expertise that is needed in a management position in business, industry, or government.

**Associate of Applied Business Degree**

Business Management Technology

<i>General Education</i>	<b>25</b>
ENG 111, 112	8
PLS 112, 113	8
PSY 111, 112	6
SPC 101 or 203	3
<i>Basic Courses</i>	<b>22</b>
TAD 101, 232	6
EC 201, 202, 203	9
TEN 116	3
PSY 304	4
<i>Technical Courses</i>	<b>49</b>
TAC 201, 202, 203	9
TAD 103	3
TMG 201, 202, 210, 299	13
TMK 201, 240	6
TMT 110, 111	6
TOA 211, 237	6
TQB 210	3
<b>Total</b>	<b>93</b>

Since the order in which courses are taken is very important, each student should plan a program in consultation with an adviser. The following sequence is suggested: *Freshman Year:* EC 201, 202, 203; ENG 111, 112; PSY 111; SPC 101 or 203; TAC 201, 202, 203; TAD 101, 103; TMT 110, 111; TOA 211. *Sophomore Year:* PLS 112, 113; PSY 112, 304; TAD 232; TEN 116, TMG 201, 202, 210, 299; TMK 201, 240; TOA 237; TQB 210.

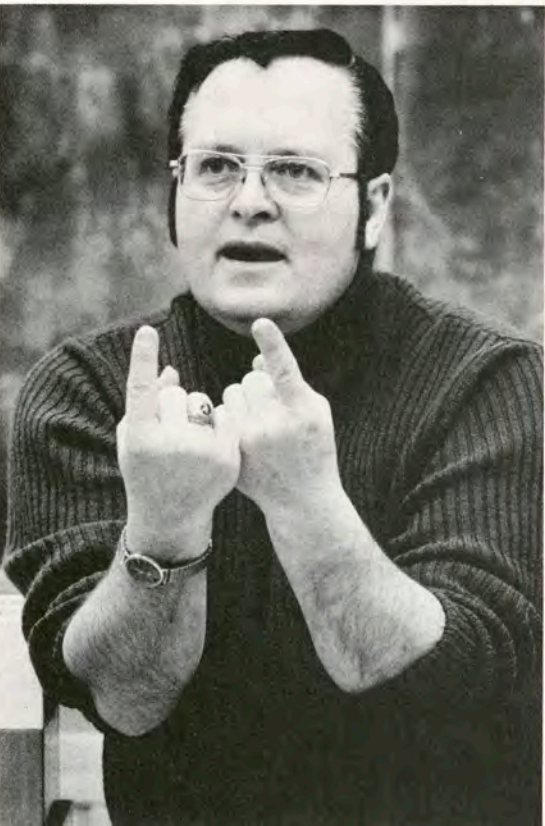
**Drafting Design Technology**

Drafting and design technicians are trained for employment as assistant plant engineers, machine designers, layout and detail draftsmen, production supervisors, laboratory technicians, production process technicians, and field service engineers. They are prepared to work with engineers and to assist with and oversee details of installation, operation, production, and maintenance of engineering projects. In this program, students receive basic instruction in mathematics, science, the mechanics of statics, dynamics and fluids, engineering drawing, and machine design. In the sixth quarter, the internship provides an opportunity to apply knowledge, methods, and technical skills in support of engineering activities.

**Associate of Applied Science Degree**

Drafting Design Technology

<i>General Education</i>	<b>25</b>
ENG 111, 112	8
PLS 112, 113	8
Elective	3
SOC 111, 112 or PSY 111, 112	6
<i>Basic Courses</i>	<b>21</b>
TMG 201	3
MTH 131	3
TMT 113	3
TPH 111, 112, 113	12
<i>Technical Courses</i>	<b>47</b>
TEG 145, 146, 147, 207, 204, 205, 299	23
TMT 138	4
Electives	20
<b>Total</b>	<b>93</b>





Since the order in which courses are taken is very important, each student should plan a program in consultation with an adviser. The following sequence is suggested: *Freshman Year*: ENG 111, 112; MTH 131; TEG 145, 146, 147; TMT 113, 138; TPH 111, 112, 113. *Sophomore Year*: PLS 112, 113; SOC 111, 112 or PSY 111, 112; TEG 204, 205, 207, 299; TMG 201.

## Technical Courses

### Technical Accountancy (TAC)

- 201-3, 202-3, 203-3 *Accounting Concepts and Principles I, II, III* Introduction to accounting for business enterprises, including preparation and analysis of financial statements and reports for managers and other users. Must be taken in sequence.
- 210-3, 211-3 *Financial Accounting I, II* Principles and procedures in accounting for assets, liabilities, equity, and results of operations for business enterprises. Prerequisite: TAC 203.
- 220-3, 221-3 *Cost Accounting I, II* Practice of cost accounting and cost procedures in industry: Job order, process, and standard cost methods. Prerequisite: TAC 203.
- 222-3, 223-3 *Management Control through Accounting I, II* Accounting in the planning control and decision making process of business operations. Prerequisite: TAC 203.
- 225-3, 226-3 *Tax Accounting I, II* Income tax regulations related to business and individual income tax reporting. Prerequisite: TAC 203.
- 232-3 *Federal Tax Planning* Federal tax system; opportunities for effective business tax planning. Prerequisite: TAC 203.
- 241-3 *Accounting Information Systems* Analysis of accounting information needs of an organization, alternatives for satisfying these needs, problems in implementation of useful accounting information systems. Prerequisite: TAC 203.
- 251-3 *Corporation Accounting* Branch accounting and consolidated financial statements. Prerequisite: TAC 221.
- 261-3 *Proprietorship and Partnership Accounting* Special problems in accounting for proprietorship and partnership business organization. Prerequisite: TAC 203.
- 290-3 *Comprehensive Accounting Course* A capstone course to integrate the student's program into a cohesive accounting program and to promote accounting problem solving capabilities. Prerequisites: TAC 211, 223.
- 295-1 to 3 *Independent Study* Directed study on selected topics. Requires permission of instructor and sophomore standing. May be repeated for a maximum of 4 credit hours.
- 299-4 *Internship* Practical business experience in accounting for a qualified student under the joint planning and coordination of faculty, student, and business representative.

### Technical Administration (TAD)

- 101-3 *Business and Society* Introduction to American business and its environment. May be taken after TAD 102.
- 102-3 *Business and Society* Introduction to American business with emphasis on consumerism, ecology, and minorities. May be taken before TAD 101.
- 103-3 *Introduction to Data Processing and Cobol* This course acquaints the inexperienced with the data processing fundamentals and terminology pertinent to programming business systems and requires the student to write and test COBOL programs.
- 220-3, 221-3 *Fundamentals of Insurance* Types of risks, claims, and carriers; specific attention to kinds of insurance. Insurance law, licensing and duties of the agent. Types of brokerage, agency management, contracts, deeds, taxation, leasing, laws and regulatory agencies.
- 232-3 *Business Law* The study of law as it relates to business organization and transaction. Considers the nature and classification of law, courts, torts, contracts, corporations, and negotiable instruments.

### Technical Engineering (TEG)

- 145-3 *Engineering Drawing I* Use of drafting instruments, lettering, types of lines, orthographic projections, isometric and oblique views, sections, auxiliary views. Two 3-hr. labs per week.
- 146-3 *Engineering Drawing II* Perspective, freehand sketching, production drawings including gears, bolts, castings, structures, cams, and levers; dimensioning, specifications, and other required information. Two 3-hr. labs per week.
- 147-3 *Engineering Drawing III* Layout, assembly, schematic, wiring, block diagrams, and drawings. A student project is included. Two 3-hr. labs per week.
- 201-3 *Statics* Forces, resultants, components; equilibrium of particles; moments, torques; equilibrium of rigid bodies, analysis of structures. 3 hrs. lect. Prerequisite: TPH 111, MTH 131.
- 202-3 *Dynamics* Motion of particles and rigid bodies; force, mass, and acceleration; torque, moment of inertia, rotation; work-energy relation for particles and rigid bodies. 3 hrs. lect. Prerequisite: TEG 201, TMT 138.



- 203-3 *Strength of Materials* Axial stress and strain, shear stress and strain, torsion of circular shafts; shear and bending moment diagrams, deflection of beams; columns. 2 hrs. lect., 3 hrs. lab. Prerequisite or corequisite: TEG 201.
- 204-3, 205-3 *Machine Design I and II* Principles of mechanics and strength of materials as applied to components of mechanisms, power trains, beams, pressure vessels, and other bodies under static load. Shafts, gears, couplings, jig and fixture design are treated in detail. 2 hrs. lect., 2 hrs. lab.
- 206-3 *Control Systems* A general study of the principles of variance to be controlled, energy transfers, mechanical, electrical, hydraulic, and pneumatic control systems. 3 hrs. lect.
- 207-4 *Basic Electricity* Application of Ohm's and Kirchhoff's laws to series, parallel, and series-parallel circuits. Network theorems, maximum power transfer, magnetism, and alternating current fundamentals. 2 hrs. lect., 4 hrs. lab.
- 208-4 *Instruments* A study of the operational principles and uses of various measurement and laboratory devices. Study of the oscilloscope, AC and DC bridge circuits, electronic sensors, and meter operation and construction. 2 hrs. lect., 4 hrs. lab.
- 209-3 *Fluid Mechanics* Basic study of hydraulics and pneumatics. Applications of fluid mechanics, including pressure, density, viscosity, in design circuits and systems. 3 hrs. lect.
- 212-3 *Engineering Materials* Metallic, organic, and inorganic substances. Testing uses and fabrication of these materials. Emphasis on testing procedures and interpretation of test data. 2 hrs. lect., 2 hrs. lab.
- 295-1 to 3 *Independent Study* Directed study on selected topics. Requires permission of instructor and sophomore standing. May be repeated for a maximum of 4 credit hours.
- 299-4 *Internship* Practical industrial experience for a qualified student as a technician/draftsman under the joint planning and coordination of faculty, student, and industrial representative.

#### Technical English (TEN)

- 115-3 *Business Communications I* Review of fundamentals of grammar, sentence construction, punctuation rules; study of terminology used in business.
- 116-3 *Business Communications II* Concentrated study of business letter and report writing. Practice writing letters of sales, credit, collection, and other business letters.

#### Technical Finance (TFI)

- 205-3 *Business Finance* Emphasis on financial structure of a monetary and credit system, monetary and credit policies, and the demands for funds in the business sector of the economy. Forms of business financing and fundamental concepts of capital budgeting are analyzed. Prerequisite: TAC 203.

#### Technical Management (TMG)

- 201-3 *Personnel Management* Study of the characteristics, purposes, objectives, and techniques of supervision and coordination of the work of others. Discussions include employment interviewing, training procedures, supervision and improvement of human relations.
- 202-3 *Labor Relations* Consideration of the practices, principles, and organization of collective bargaining. Study of the techniques of mediation and the agencies involved in mediation. Causes and cures of labor disputes.
- 210-3 *Fundamentals of Management* Basic fundamentals of the process of management applied to business organizations. Emphasis will be placed on the practical applications of techniques employed by managers at lower and middle organizational levels.
- 290-4 *Comprehensive Management* Capstone course designed to integrate the student's two-year program into a cohesive management program and to promote management problem solving capabilities.
- 295-1 to 3 *Independent Study* Directed studies on selected topics. Requires permission of instructor and sophomore standing. May be repeated for a maximum of 4 credit hours.
- 299-4 *Internship* Practical business experience in management for a qualified student under the joint planning and coordination of faculty, student, and business representative.

#### Technical Marketing (TMK)

- 201-3 *Promotion* Use of personal selling, sales promotion, and advertising techniques.
- 202-3 *Retailing* Study of the marketing functions at the retail level. Emphasis on institutional practices at various types of retail establishments.



- 203-3 *Physical Distribution* Study of the physical transportation facilities and alternative channels of distribution.
- 204-3 *Marketing Research* Study and performance of real or simulated marketing research problems with special emphasis on practical applications.
- 205-3 *Basic Marketing I* Study of the functions of marketing in the American business system with emphasis on economic and social determinants.
- 206-3 *Basic Marketing II* Practical evaluation of marketing functions relative to product development, promotion, pricing, distribution, and establishing market objectives.
- 240-3 *Salesmanship and Sales Supervision* Analysis of personal skills essential to successful selling. An understanding of the personal characteristics and merchandising knowledge necessary for customer development are discussed. Mass and personalized methods of sales supervision are considered.
- 290-4 *Comprehensive Marketing* Capstone course designed to integrate the student's two-year program into a cohesive marketing program and to promote marketing problem solving capabilities.
- 295-1 to 3 *Independent Study* Directed study on selected topics. Requires permission of instructor and sophomore standing. May be repeated for a maximum of 4 credit hours.
- 299-4 *Internship* Practical business experience in retail marketing for a qualified student under the joint planning and coordination of faculty, student, and business representative.

#### **Technical Mathematics (TMT)**

- 110-3, 111-3 *Mathematics I, II* Basic theory of mathematics needed to understand problems in commercial mathematics. Rapid calculation methods and work-saving devices for computing installment payments, simple and compound interest, annuities, depreciation, and investment. Development and use of graphs.
- 113-3 *Algebra for Technologists* Study of logarithms, solution of systems of equations, theory of equations, inequalities, variation, progressions, properties of the trigonometric functions, elements of analytic geometry with emphasis on applications.
- 138-4, 139-4, *Applied Technical Mathematics* An introduction to the techniques and fundamentals of calculus. Study of limits, the derivative, the definite integral, infinite series, and differential equations, with emphasis on applications.

- 158-3 *Elementary Linear Mathematics* Equations and inequalities in one and several variables, introduction to analytic geometry, the algebra of vectors and matrices, linear independence of n-tuples, solutions of linear systems in n variables. Prerequisite: TMT 113 or three or more years of college preparatory math in high school or a sufficiently high score on the math placement examination.
- 164-3 *Elementary Probability* Numerical descriptive methods; the axioms of probability; events, random variables; expected values, introduction to the binomial and normal distributions. Prerequisite: adequate high school preparation (or TMT 113 or equivalent score on placement examination).

#### **Technical Office Administration (TOA)**

- 201-3 *Beginning Shorthand* Development of a vocabulary in Gregg Diamond Jubilee series shorthand. Not open to students with one year of high school shorthand.
- 202-3 *Intermediate Shorthand* Continued vocabulary development in Gregg shorthand. Emphasis on dictation and ability to transcribe accurately. Prerequisite: OA T201 or one year of high school shorthand and OA T211 or equivalent.
- 203-3 *Advanced Shorthand* Emphasis on dictation and speed building in Gregg shorthand. Introduction to transcription. Prerequisite: OA T202 or two years in high school.
- 211-3 *Beginning Typewriting* Mastery of basic skills in touch typewriting. Typing of letters, reports, short tabulations, themes. Open to any student with less than one year of high school typewriting instruction or equivalent.
- 212-3 *Intermediate Typewriting* Development of speed and accuracy; introduction to production typewriting of letters, reports, tabulations, and manuscripts. Prerequisite: One year of high school typewriting instruction or OA T211.



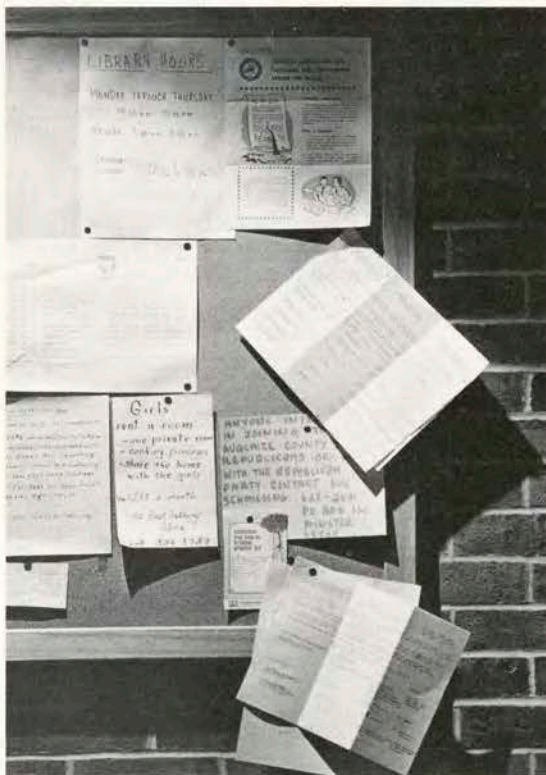
- 213-3 *Advanced Typewriting* Further development of speed and accuracy; emphasis on business letters, tabulation problems, business reports, and manuscripts. Introduction to typewritten transcription from office dictation equipment. Prerequisite: OA T212.
- 221-3 *Secretarial Procedures I* Culminating training course involving a vast number of practical experiences typical of the modern office, including proper telephone and communication techniques, problems in decision making, records management, duplicating and copying processes, business ethics and other secretarial duties.
- 222-3 *Secretarial Procedures II* Continuation of OA T221.
- 223-3 *Secretarial Procedures III* Continuation of OA T222.
- 231-3 *Office Management* Office organization; emphasis on work flow, proper equipment, problems in supervision, human relations, and management techniques.
- 233-3 *Machine Transcription* Transcription from belts and tapes, emphasizing skills needed in today's word processing environment.
- 234-3 *Beginning Transcription* Introduction to typewritten transcription from dictation. Prerequisites: OA T203, OA T212.
- 235-3 *Intermediate Transcription* Continued development of typewritten transcription from dictation. Prerequisite: OA T234.
- 236-3 *Advanced Transcription* Terminal course in transcription; emphasis on ability to use a high degree of language skill. Prerequisite: OA T235.
- 237-3 *Office Machines* Introduction to adding machines, rotary calculators, listing calculators, and their application to business problems.
- 238-3 *Legal Transcription* Designed to give a secretarial student background in the field of legal terminology, forms, formats, and dictation.
- 239-3 *Medical Transcription* Designed to prepare students for a beginning position as a medical secretary or medical transcriptionist. Emphasis on medical terminology and transcription.
- 295-1 to 3 *Independent Study* Directed study on selected topics. Requires permission of instructor and sophomore standing. May be repeated for a maximum of 4 credit hours.
- 299-4 *Internship* Practical business experience for a qualified student as a secretary under the joint planning and coordination of faculty, student, and business representative.

#### Technical Physics (TPH)

- 111-4, 112-4, 113-4 *Technical Physics* The principles of physics taught with emphasis on technical applications, including fundamental phenomena and laws of physics.

#### Technical Quantitative Business Analysis (TQB)

- 210-3, 211-3 *Introduction to Statistics I, II* Principles and techniques of collecting, analyzing, presenting, and interpreting quantitative data in business and economics. Emphasis on computer usage. 2 hrs. lect., 3 hrs. lab.





# Course Descriptions





Courses designated by consecutive numbers are related courses; courses that must be taken in sequence are so indicated in the course descriptions.

The number that follows the hyphen in each course number indicates the number of credit hours per quarter for that course. Courses formerly offered under a different number are so identified at the end of the course description.

Although every effort is made to keep the course descriptions up to date, inevitably changes occur after publication deadlines. Students are urged to consult the current lists of course offerings available in departmental offices.

This catalog includes only undergraduate courses and programs. Graduate courses and programs are described in the *Wright State University Graduate Catalog*.

### Abbreviations Used in Course Listings

ACC Accountancy  
ADM Administration  
ANT Anatomy  
ATH Anthropology  
ART Art  
AED Art Education  
BCH Biological Chemistry  
BIO Biological Sciences  
CHM Chemistry  
CLS Classical Humanities  
CPL Comparative Literature  
CS Computer Science  
CE Continuing Education  
DAN Dance  
EC Economics  
ED Education  
EGR Engineering  
ENG English  
ENV Environmental Studies  
FIN Finance  
FR French  
GEO Geography  
GL Geology  
GER German  
GR Greek  
HPR Health, Physical Education, and Recreation  
HST History  
LCS Library and Communication Science  
LAT Latin  
LA Liberal Arts

LI Linguistics  
MGT Management  
MKT Marketing  
MTH Mathematics  
MIC Microbiology  
ML Modern Language Humanities  
TH Motion Pictures (TH)  
MUS Music  
NUR Nursing  
OA Office Administration  
PHL Philosophy  
PHY Physics  
PHS Physiology  
PLS Political Science  
PSY Psychology  
QBA Quantitative Business Analysis  
RHB Rehabilitation  
REL Religion  
RUS Russian  
SW Social Work  
SOC Sociology  
SPN Spanish  
SPC Speech Communication  
SS Study Skills  
TH Theatre  
UD University Division  
URS Urban Studies

Technical Courses (TAC, TAD, TEG, TEN, TFI, TMG, TMK, TMT, TOA, TPH, TQB)—see Branch Campuses chapter.

### Course Numbering System

0–99 Remedial precollege level courses.

100–499 Lower division courses intended for undergraduate credit only. The first digit indicates the general level of the course: 1 for a first-year course, 2 for a second-year course, 3 for a third-year course, 4 for a fourth-year course. Courses in this category that are acceptable for graduate credit carry alternate numbers in which the first digit only is changed to a 5 or a 6 according to the definitions below.

500–599 Courses that carry graduate credit only in a major field different from that of the department offering the course. Most such courses will be alternate designations of courses normally numbered 300–499.

600–699 Courses that carry graduate credit in any major field and have alternate designations in which the first digit is a 3 or 4 when taken for undergraduate credit.

700–999 Courses intended for graduate credit only. Unclassified students may, with the approval of the department offering the course, register for undergraduate credit in courses numbered 700–799.



## Accountancy (ACC)

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- 201-3, 202-3, 203-3 *Accounting Concepts and Principles I, II, and III* Introduction to accounting for business enterprises; includes preparation and analysis of financial statements and reports for managers and other users. Must be taken in sequence.
- 231-3 *Income Tax Planning* Individual and business decisions involving federal income taxes. Elective for students who do not plan to major in accounting.
- 300-3 *Accounting for Managerial Analysis* Analysis and interpretation of accounting information to management in the functions of planning, control, and decision making. Not open to accountancy majors. Prerequisite: ACC 203.
- 304-3, 305-3, 306-3 *Financial Accounting I, II, III* Development of financial accounting theory and its application to complex problems in the valuation of balance sheet accounts, determination of net income, and preparation of financial statements. Must be taken in sequence. Prerequisite: ACC 203.
- 308-3 *Financial Reporting I* Current financial reporting practices including alternatives, theoretical justification, effects upon the economic system and uses. Not open to accountancy majors. Prerequisite: ACC 203.
- 309-3 *Financial Reporting II* Continuation of ACC 308 with emphasis on special problems. Not open to accountancy majors. Prerequisite: ACC 308.
- 321-3 *Management Accounting I* Concepts, techniques, and detailed accounting procedures for the manufacturing firm. Prerequisite: ACC 203.
- 322-3 *Management Accounting II* Application of cost accounting concepts and techniques to complex problems in manufacturing accounting and to other areas, including distribution costs and research and developments costs. Prerequisite: ACC 321.
- 331-3 *Income Tax Accounting I* History, theory, and basic tax structure pertaining to individuals and business. Prerequisite: ACC 203.
- 332-3 *Income Tax Accounting II* Corporate, partnership, estate, gift, social security, and other federal taxes. Prerequisite: ACC 331.
- 407-3 *Financial Accounting IV* Comprehensive study of partnerships and consolidated financial statements. Accounting for branch and foreign operations. Prerequisite: ACC 306.
- 411-3 *Accounting Systems I* Fundamental concepts of information, communication, and systems which form the framework for the design of data processing and accounting systems. Prerequisite: ACC 306, 322, and ADM 103.
- 412-3 *Accounting Systems II* Application of accounting systems in handling principal business transactions and situations. Prerequisite: ACC 411.
- 421-3 *Auditing I* Introduction to principles, standards, and procedures involved in conduct of an audit by the independent accountant. Prerequisite: ACC 306.

- 422-3 *Auditing II* Application of auditing techniques with emphasis on the audit report and other special reporting problems. Consideration of management services and the auditor's responsibility to third parties. Prerequisite: ACC 421.
- 431-3 *Governmental Accounting* Application of accounting principles to fund accounting for government units with consideration given to institutional accounting. Prerequisite: ACC 305 and 321.
- 477-1 to 3 *Special Studies in Accounting*
- 481-6 *Internship in Accounting* One-quarter, faculty-supervised internship in the areas of public, industrial, or governmental accounting. Semimonthly seminars and reports required. Approval of Committee on Accounting Internship required.
- 499-3 *Senior Seminar* Readings in and discussion of recent accounting literature. Accounting major and senior standing required.

## Administration (ADM)

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- 101-3, *Business and Society* Introduction to American business and its environment. May be taken after ADM 102.
- 102-3 *Business and Society* Introduction to American business with emphasis on consumerism, ecology, and minorities. May be taken before ADM 101.
- 103-3 *Introduction to Data Processing and COBOL* Data processing fundamentals and terminology pertinent to programming business systems; students required to write and test COBOL programs.
- 105-3, 106-3 *Small Business Management* Management and control of small business; special attention to minority business problems. Must be taken in sequence.
- 350-3 *Business Law I* Nature of law and legal systems. Torts, liability, contracts: essential elements. Junior standing required.
- 351-3 *Business Law II* Law of agency, partnerships, corporations, credit, and bankruptcy. Prerequisite: ADM 350. May be taken after ADM 352.
- 352-3 *Business Law III* Law of property, sales, and commercial paper, including discussion of the Uniform Commercial Code. Prerequisite: ADM 350. May be taken before ADM 351.
- 477-1 to 4 *Special Studies in Business* Registration only with permission of instructor.
- 480-3 *Special Topics in Business and Government* Topics will include current problems of interest and value in the area of business. Topics will include government regulation of business, social responsibility of business, and legal problems in business.
- 482-3 *Government and Business Relations* of business and government. Senior standing required.
- 483-3 *Business Enterprise and Public Policy* Analysis of selected areas involving public policy and business. Senior standing or permission of instructor required.



## Anatomy (ANT)

- 201-4 *Basic Human Anatomy I* Basic histological, developmental, and topographical anatomy of the musculoskeletal, cardiovascular, and hematopoietic-lymphoreticular systems. Laboratory demonstrations and discussions of human material and use of audiovisual aids. Prerequisite: BIO 112 and/or consent of instructor.
- 202-4 *Basic Human Anatomy II* Basic histological, developmental, and topographical anatomy of the digestive, respiratory, urinary, reproductive, endocrine, and nervous systems. Laboratory demonstrations and discussions of human material and use of audiovisual aids. Prerequisite: ANT 201 and/or consent of instructor.
- 488-1 *Independent Reading* Junior standing and departmental approval required.
- 499-1 *Special Problems in Anatomy* A minimum 2.2 cumulative grade point and departmental approval required. Maximum of four hours applicable toward degree requirements.

## Anthropology (ATH)

- 140-3 *Cultural Anthropology* Cultural development in various parts of the world; discussions of the different ways of life of contemporary peoples and the relationship between primitive and contemporary cultures.
- 141-3 *Physical Anthropology* Physical nature of man; includes evolution, our relationship to primates, and the present-day physical variability of man.
- 142-3 *Archaeology* Methods of reconstructing the cultural history of prehistoric peoples.
- 200-3 *World Ethnographic Survey* A survey of the non-Western cultures of the world popularly known as our primitive contemporaries. Prerequisite: ATH 140 and 141 or 142, or SOC 111, 112.
- 210-3 *Survey of World Prehistory* An examination of major events in human prehistory, emphasizing major trends in cultural evolution: man the hunter, man the farmer, the urban revolution, and beginnings of civilization. Prerequisite: ATH 140 and 142.
- 240-3 to 4 *Indians of North America* Culture areas and cross-cultural characteristics of the North American Indian. Prerequisite: ATH 140 and 141 or 142.
- 255-3 *South American Cultures* Descriptive survey of contemporary South American societies and their cultural histories. Prerequisite: ATH 140 and 141 or 142.
- 300-3 *Laboratory in Archaeology* Introduces the methodological and procedural practices used in the archaeological laboratory. Emphasis is placed upon the mastery of basic laboratory skills. Prerequisite: ATH 140 and 142 or 369.
- 340-3 *Introduction to Applied Anthropology* This course is designed to introduce the student to various aspects of applied anthropology as currently utilized in a variety of behavioral activity fields locally, nationally, and internationally. Prerequisite: ATH 140 and/or instructor's permission.
- 345-3 *Social Anthropology* Comparative analysis of aboriginal and modern social structures. Prerequisite: nine hours of anthropology.
- 346-3 *Primitive Religions* (Offered jointly with Department of Religion; see REL 346.) Anthropological approach to meaning and function of religion in social life, and nature of thought or belief systems that give rise to different forms of religious life; emphasis on primitive and peasant societies. Prerequisite: introductory courses in anthropology and/or religion and/or consent of instructor.
- 349-3 *Anthropological Linguistics* The science of language as an anthropologist's tool for field research. How to describe language as sound, and write an unwritten language; how the anthropologist can make use of linguistic training for acquiring cultural data. Consent of instructor required.
- 350-4 *Laboratory of the Human Skeleton* Identification of human bones and investigation of their functions. Consent of instructor required.
- 351-3 to 4 *Fossil Evidence of Human Evolution* History, description, and interpretation of fossil man discoveries. Consent of instructor required.
- 358-3 *Human Variation and Adaptation* Examination of biological variation in human populations focusing upon interpopulation variation, adaptation, and the concept of race. Prerequisite: ATH 140, 141, or permission of instructor.
- 360-3 *Introduction to Old World Archaeology* Survey of archaeology cultures of Europe, Africa, and Western Asia during paleolithic, mesolithic, and neolithic periods. Prerequisite: ATH 140, 142.
- 363-3 *Archaeology of Mesoamerica* Archaeological history of Mesoamerica, from the first paleo-hunters to the Spanish Conquest; relationships with North and South America emphasized.
- 364-3 *South American Archaeology* Archaeological history of South America, from the earliest paleo-hunters to the Spanish Conquest; special emphasis on Andean area.
- 365-3 *Archaeology of Eastern North America* A detailed examination of the major cultures and traditions of prehistoric eastern North America. Emphasis will be placed on the Midwestern and Southeastern areas. Prerequisite: ATH 140, 142, 240, or permission of the instructor.
- 366-3 *Archaeology of Western North America* A detailed examination of the major cultures and traditions of prehistoric western North America. Prerequisite: ATH 140, 142, 240, or permission of the instructor.
- 368-3 *Archaeological Field Techniques* Classroom and laboratory preparation for archaeological excavations. Consent of instructor required.
- 369-3 *Archaeological Field Study* Excavation training on prehistoric sites. Summer only. Consent of instructor required.
- 392-2 to 4 *Readings in Anthropology* Permission of department required.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of anthropology.



- 400-3 *Special Topics in Archaeology* Courses under this number provide advanced study in various specialized aspects of archaeology. Prerequisite: twelve quarter hours of anthropology.
- 410-3 *Special Topics in Cultural Anthropology* Selected topics concerning the method and theory of anthropological thought and their relationship to the allied disciplines of folklore, linguistics, art, religion, and history. Special emphasis will be placed on current trends influencing research in cultural anthropology. Prerequisite: twelve quarter hours of anthropology.
- 446-3 *Cultures of South Asia* Survey and analysis of cultural diversity and unity in Southern Asia, particularly India, Pakistan, Bangladesh, and Ceylon. Prerequisite: ATH 140 and 141 or 142, and senior standing.
- 447-3 *African Ethnology* Survey of the peoples and socio-cultural systems of Africa with special emphasis on sub-Saharan ecological and biocultural relationships. Prerequisite: ATH 140 and 141 or 142.
- 448-3 *Development of Ethnological Thought* Surveys historical development of ethnological thought; emphasizes theories of social and cultural change. Senior standing and consent of instructor required.
- 450-3 *Political Institutions in Primitive Societies* A study of that part of the culture of primitive societies which we recognize as political organization. An attempt is made to show how in less complex (primitive) societies new local communities come into being through fission. Prerequisite: twelve quarter hours of anthropology and junior or senior standing.
- 468-3 *Seminar in Archaeological Theory* Theoretical concepts and techniques in the new archaeology applied to concrete examples from scientific literature.
- 492-2 to 4 *Independent Research in Anthropology* Permission of department required.

## Art (ART)

The student should consult with the Department of Art for appropriate course prerequisites.

- 101-4, 102-4, 103-4 *Foundations of Art* Introduction to studio activity. Laboratory experience with emphasis on perception, visual organization, and color, involving a variety of media. For nonmajors only.
- 141-3, 142-3 *Studies in Art History: Painting and Sculpture* Introduction to basic concepts of visual and stylistic analysis and perspectives on art history from prehistory to the present. Prerequisite: ART 141.
- 143-3 *Studies in Art History: Architecture* Development of architecture in terms of formal qualities, materials, techniques, and function from ancient to modern times.
- 201-4, 202-4, 203-4 *Foundations of Art* Introduction to studio activity. Laboratory experience with emphasis on perception, visual organization, and color, involving a variety of media. For art and art education majors only. No sequence requirements.

- 211-4, 212-4, 213-4 *Beginning Printmaking* 211: Exploration of printmaking, stressing intaglio printing. Etching, engraving, drypoint, and aquatint sugar-life demonstrated. Relief methods in woodcut, linocut, or collotype optional. 212: Introduction to basic lithographic techniques using stone and/or metal plate. Emphasis on black and white printing and on aesthetic possibilities of the media. 213: Introduction to silkscreening techniques such as stencil cut, photo stencil, and crayon and touche resists. Exploration of aesthetic possibilities of the media.
- 221-4, 222-4, 223-4 *Beginning Painting* Painting from still life and figure, emphasizing use of color and drawing in visual organization.
- 251-4, 252-4, 253-4 *Beginning Drawing* Introduction to techniques of drawing. Includes studies from the human figure and other natural forms.
- 261-4, 262-4, 263-4 *Beginning Sculpture* Introduction to fundamentals of sculpture, emphasizing basic forming processes and materials.
- 270-4, 271-4, 272-4 *Studies in Experimental Media* Introduction to visual and aesthetic techniques and concepts, emphasizing development of individual artistic expression in various new media, such as film and video tape.
- 280-4, 281-4, 282-4 *Introduction to Photography* Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to photographic problems that arise from the student's work.
- 301-4, 302-4, 303-4 *Design* Introduction to the theory, methods, and practices of design with emphasis on methods of inquiry, techniques, and procedures used in design problem solving. May be repeated for credit.
- 311-4, 312-4, 313-4 *Intermediate Printmaking* Development of personalized concepts and individual aesthetic expression in printmaking. May be repeated for credit.
- 321-4, 322-4, 323-4 *Intermediate Painting* Emphasis on principles of abstraction in pictorial organization. Attention to the relationship of subject matter and abstraction as related to contemporary and traditional approaches. May be repeated for credit.
- 340-3 *Studies in Renaissance Art* Courses offered under this number provide both general surveys and intensive studies of the period, major movements, and artists of the time. May be repeated with different title.
- 341-3 *Studies in Mannerism and Baroque Art* Courses offered under this number provide both general surveys and intensive studies of the period, major movements, and artists of the time. May be repeated with different title.
- 342-3 *Studies in the Art of the Nineteenth Century* Courses offered under this number provide both general surveys and intensive studies of the period, major movements, and artists of the time. May be repeated with different title.



- 343-3 *Studies in Ancient and Classical Art* Selected courses providing both general surveys and intensive studies of the period, major movements, and artists of the time. (See CLS 340.) May be repeated with different titles.
- 351-4, 352-4, 353-4 *Intermediate Drawing* Development of personal concepts and aesthetic expression in drawing. Emphasis on individualized approach to drawing problems that arise from the student's work. May be repeated for credit.
- 361-4, 362-4, 363-4 *Intermediate Sculpture* Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by the students. May be repeated for credit.
- 370-4, 371-4, 372-4 *Intermediate Photography* Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to photographic problems that arise from the student's work. May be repeated for credit.
- 373-4, 374-4, 375-4 *Intermediate Studies in Experimental Media* Study of visual and aesthetic techniques and concepts, emphasizing development of individual artistic expression in various media, such as film and video tape. May be repeated for credit.
- 381-1 to 4, 382-1 to 4, 383-1 to 4 *Independent Study in Art and Art History* Special studies for qualified students of junior standing who wish to do intensive individual work with faculty supervision in art and art history.
- 390-3 *Museology and Gallery Management I* Examination of the history, purposes, and literature of museums and galleries. Various aspects of gallery management such as planning, organizing, and installing exhibitions.
- 391-3 *Museology and Gallery Management II* Continuation of Art 390. Examination of the history, purposes, and literature of museums and galleries. Various aspects of gallery management such as planning, organizing, and installing exhibitions. Prerequisite: Art 390.
- 392-3 *Museology and Gallery Management III* Continuation of 391. Examination of the history, purposes, and literature of museums and galleries. Various aspects of gallery management such as planning, organizing, and installing exhibitions. Prerequisite: Art 390-391.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of art.
- 411-4, 412-4, 413-4 *Advanced Printmaking* Development of personalized concepts and individual aesthetic expression in printmaking. May be repeated for credit.
- 421-4, 422-4, 423-4 *Advanced Painting* Continued emphasis on pictorial organization with increased attention to the individual student's personal imagery. May be repeated for credit.
- 440-3 *Studies in the Art of the Twentieth Century* Courses offered under this number provide both general surveys and intensive studies of the period, major movements, and artists of the time. May be repeated with different title.
- 441-3 *Studies in Art Theory and Criticism* Courses offered under this number provide both historical surveys and intensive studies of art theory and criticism. May be repeated with different title.
- 442-3 *Special Problems in Art and Art History* Courses offered under this number provide opportunities to explore special problems and approaches to art and art history and includes cross-period and interdisciplinary studies. May be repeated with different title.
- 451-4, 452-4, 453-4 *Advanced Drawing* Exploration of the structure and interrelationships of visual form in drawing, painting, and sculpture. Principal historical modes of drawing examined. May be repeated for credit.
- 463-4, 464-4, 465-4 *Advanced Sculpture* Further development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by the students. May be repeated for credit.
- 470-4, 471-4, 472-4 *Advanced Photography* Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to graphic problems that arise from the student's work. May be repeated for credit.
- 473-4, 474-4, 475-4 *Advanced Studies in Experimental Media* Development of personal concepts and aesthetic expression in media. Emphasis on individualized approach to media problems using film and video tape.
- 481-1 to 4, 482-1 to 4, 483-1 to 4, *Independent Study in Art and Art History* Special studies for qualified students of senior standing. Intensive individual work with faculty supervision in a studio subject of the student's choice.





484-3 *Senior Seminar* Opportunities to learn about the profession through classroom discussion and meaningful exchange with faculty and guest lecturers from others fields. Assists with preparation and presentation of senior portfolio.

490-1 to 4 *Advanced Museology and Gallery Management* Supervised independent field experience and practical work in all areas of art museum management (exhibitions, education, care of collections, research, registration, etc.) in the university and greater Dayton area communities. Each student to be handled as a tutorial intern. Permission of instructor required.

## Art Education (AED)

111-3, 112-3, 113-3 *The Individual and the Creative Process* For art education majors. 111: Basic course providing opportunities for student's development and awareness of himself as an individual responding to his environment. 112: Methods and disciplines of creating with materials and tools. 113: Continued work with art materials, providing experiences for individual awareness of the creative process. Must be taken in sequence.

114-4 *Exploration of Lineal Concepts* Combination studio and seminar in drawing and two-dimensional materials. Studio work consists of discovering ways of expressing environmental concepts through pencil, crayon, inks, opaque paints, and other materials common to the public school. Seminar discussions of motivational techniques for promoting two-dimensional work. Methods of drawing with elemental tools that correspond to child growth and development stressed. Prerequisite: ART 201 or 202 or 203 or three hours drawing.

214-3 *Design and the Craftsman* Exploration and understanding of the philosophical, aesthetic, and expressive relationships of design and art media. Emphasis on importance of craftsmanship with basic art media used in public school art program. Prerequisite: AED 114.

223-3 *Crafts for Teachers* Creative problems in paper, wood, clay, fibers, and metal for the elementary grades. Participation and observation expected during course. Prerequisite: AED 231 or 331, or consent of instructor. Enrollment limited to elementary education majors.

224-4 *Ceramics I* Rudiments of ceramic design, methods of forming, wheel throwing, firing, glazing, and decoration. Emphasizes ceramic techniques and procedures applicable to public school art program. Prerequisite: an introductory studio design course or permission of instructor.

225-4 *Ceramics II* Advanced ceramic design, forming, wheel throwing, glaze calculations, decoration, and a high degree of experimental involvement. Emphasizes advanced ceramic techniques and procedures applicable to public school art program. Prerequisite: AED 224 or permission of instructor.

226-3 *Modeling* Introductory work in construction of three-dimensional forms; sculptural potentials of clay and other plastic materials. Emphasizes modeling techniques for public school art room.

231-3 *The Individual and the Creative Process* For elementary education majors. Emphasizes the elementary teacher's awareness of himself as an individual responding to his environment and the recognition of the role of art in our culture. Includes methods and disciplines of creating with materials and tools, drawing and painting appropriate to public school classroom.

324-4 *Enameling I* Introduction to the basic methods and processes of application and the fusing of ground glass to metals. Emphasizes enameling techniques and procedures for public school art program. Prerequisite: AED 214 or permission of instructor.

325-4 *Enameling II* Advanced study of special methods and techniques of application and fusing of ground glass to metals. Emphasizes advanced enameling techniques and procedures for public school art program. Prerequisite: AED 324 or permission of instructor.

330-4 *Art in the Public School* Understanding needs of children in art expression; study of teaching techniques, materials, and curriculum organization; in-field work with children prior to student teaching. Prerequisite: ED 119, AED 431 or 331 or permission of department.

331-3 *The Child and the Creative Process* Developing an understanding of child growth and development through creative expression. Experiences in drawing and painting emphasized. Prerequisite: AED 231 or AED 214, and ED 203 or equivalent.

332-3 *School Exhibits and Displays* Lettering, graphic communication, and design problems as related to posters, display, and scenery. Individual and group techniques as related to the school program. Prerequisite: AED 214 or equivalent or consent of instructor.

411-4 *Design: Process and Material* Advanced course in two- and three-dimensional design problems involving a wide range of techniques and materials related to teaching. Personal involvement in experimental approaches related to course problems. Prerequisite: AED 214 or equivalent and eight advanced credit hours in art education.

412-4 *Interior Design* Problems to help public school art teachers develop an understanding of art appreciation for contemporary interior design. Includes furniture, fabrics, and interior architecture. Prerequisite: 16 credit hours in art education.

420-3, 421-3, 422-3 *Art Metal, Jewelry I, II* 420: Development of skill in manipulation of materials and tools for metal work appropriate for public school art program. 421: Creative designing and making of jewelry. Technique and craftsmanship for various materials appropriate for public school art program. 422: Advanced problems in design and making of jewelry forms appropriate for public school art program. Prerequisite: AED 214 or permission of instructor.



- 423-3, 424-3, 425-3 *General Fabrics, Weaving, Textiles*  
423: Introduction to fabrics as an art form. Beginning techniques of batik, weaving, stitchery, silkscreen printing and other media appropriate to public school art program. 424: Use of loom and other hand techniques in weaving. Experimental approaches in completion of original ideas. Emphasizes techniques for public school art program. 425: Methods of silkscreen printing on fabrics. Emphasizes silkscreen as it may be used in public school program. Analysis of textile design in contemporary living. Prerequisite: AED 214 or permission of instructor.
- 426-3 *Fibers and Fabrics* Various methods and procedures of working with stitchery and applique forms; work with flat and stitched fabrics for wall hangings and other fabric art forms. Emphasizes stitchery and fabric techniques for public school art program. Prerequisite: AED 214 or permission of instructor.
- 427-3 *Sculpture in the Public School* Three-dimensional expression providing an overall view of sculpture and its relationship to the student and the creative process. Studio work in wire, clay, casting, plaster, wood, stone, and wax. Emphasizes procedures and techniques applicable to public school art program. Prerequisite: AED 214 or permission of instructor.
- 428-4 *Pupil Expression Through Mural Painting* Development of individual creative expression through mural painting; application of mural technique to the public school program. Prerequisite: sixteen credit hours of art education, four of which must be advanced.
- 429-2 to 6 *Workshop in Art Education* Problems, processes, and techniques for development of art activities in elementary and secondary schools. Development of craft processes concerned with suitable projects for classroom work and public art education curricula. Taught during spring and/or summer sessions only.
- 430-3 *Independent Reading in Art Education* To expand student's knowledge of philosophy, aesthetics, creative and mental growth as related to art teaching and art education curricula. Emphasis on current books, magazines, and research in art education. Junior, senior, or graduate standing required.
- 431-3 *The Child and the Creative Process* For art education majors. Developing an understanding of child growth and development through creative expression; emphasis on functions and procedures of art in the classroom, experiences in drawing and painting. Prerequisite: AED 214 and ED 203 or equivalent.
- 432-3 *The Adolescent and the Creative Process* To help the prospective teacher become aware of the creative growth and development of the adolescent. Laboratory experiences include problems of implementing a secondary art curriculum. Prerequisite: AED 431 or AED 331 or consent of instructor.
- 433-4 *Problems for the Elementary School* Integration of art in the general public school program. Discussions, library research, and individual problems. Prerequisite: sixteen credit hours of art education, eight of which must be advanced.
- 434-4 *Problems for the Secondary School* Integration of art in the general public school program. Discussions, library research, and individual problems. Prerequisite: sixteen credit hours of art education, eight of which must be advanced.
- 435-4 *International Art Education* Creative expression as seen in various cultures, with emphasis on contemporary issues in art education. To provide the teacher with a better understanding of art on an international scope. Stresses method and procedures of implementing creative expression in various cultures, and understanding of these cultures through their creative efforts. Prerequisite: sixteen hours of art education, eight of which must be advanced.
- 436-4, 437-4 *Minor Problems in Art Education* Individual problems in specified areas for the purpose of intense and concentrated work in one or more media; the development of a proficiency in one or more craft areas. Prerequisite: sixteen hours of art education advanced crafts.
- 440-1 to 3 *Workshop/Field Trip in Art Education* Survey of visual and performing arts. Visits to museums, galleries, and commercial sources of contemporary design and architecture. Written and/or visual evaluation of places visited required. Prerequisite: one year of college or equivalent.
- 441-3 *Art Appreciation for the Public School* Understanding the influences and interaction of the creative arts in our present culture. Emphasis on importance of developing appreciation in the public school and its application to teaching. Prerequisite: sixteen credit hours of art education, eight of which must be advanced.
- 442-3 *Advanced Problems in Art Education* Concentrated and advanced work with a specific art medium such as ceramics, metals, and fabrics. Emphasis on creative work and methods of teaching advanced procedures applicable to the public school art room. Prerequisite: work in area of studio concentration.
- 443-3 *Architectural and Environmental Awareness* Combination seminar and studio focusing on curriculum development for the public school in architectural space and environmental awareness. Emphasis on human behavior and resources, ecology and human needs, aesthetics and history.
- 444-3 *Art Education and the Special Student* Experiences to help teachers become aware of creative philosophy, art media, and therapeutic procedures. Approaches in working with the handicapped individual in creative activity. Prerequisites: ED 203, AED 331 or equivalent, or permission of instructor. Enrollment limited to juniors and seniors.



## Biological Chemistry (BCH)

- 210-4 *Introductory Biochemistry* Introduction to general principles of biochemistry especially for students interested in the allied health sciences. Topics include: the chemistry of biological molecules; cellular metabolism; and mode of action of selected chemicals at the biochemical level. Prerequisite: CHM 102 or 141.
- 340-3 *Pharmacology* Introduction to general principles of pharmacology, drug classification, and the sites and mode of action of selected drug agents. Prerequisite: CHM 102, PHS 201 (218), 202 (219).
- 370-3 *Human Nutrition* Nutrition as an integrated science emphasizing biochemical and physiological principles. General topics include nutritional energetics, specific nutrients, and nutrition and physiology. Relation of basic concepts to clinical situations and to nutritional management of specific disease conditions. Prerequisite: BIO 112 and 113 or 114 or equivalent or consent of instructor.
- 375-3 *Biology of Human Sex* Human reproduction, including family planning, fertility, and introduction to human development. Introduction to physiologic genetic and anatomic sexual dysfunction. Prerequisite: one year of introductory biology and junior standing, or consent of instructor. (Also listed as BIO 375.)
- 401-1 to 4 *Topics in Biological Chemistry* Senior standing and consent of the department required.
- 421-3 *Biochemistry I* Chemistry of biological compounds and introduction to enzymes. Prerequisite: organic chemistry or consent of instructor. (BCH 210 does not replace CHM 213 as a prerequisite.)
- 422-2.5 *Laboratory for Biochemistry I* Quantitative techniques in biochemistry, chemical and instrumental methodology. One lab, one recitation. Corequisite: BCH 421. May be taken separately with consent of instructor.
- 423-3 *Biochemistry II* Intermediary metabolism of carbohydrates, proteins, nucleic acids, and lipids. Prerequisite: BCH 421. Two lectures.
- 424-2.5 *Laboratory for Biochemistry II* Properties of enzymes, enzyme catalyzed reactions, and application of isotopes to the study of metabolism. One lab, one recitation. Corequisite: BCH 423. May be taken separately with consent of instructor.
- 432-3 *Plant Biochemistry* Detailed study of the biochemistry of photosynthesis, respiration, and other metabolic and biosynthetic processes in plants. Also listed as BIO 432. Prerequisite: BCH 421 and 423.
- 433-2 *Laboratory for Plant Biochemistry* Experiments follow the subject matter sequence of BCH 432. One lab. Also listed as BIO 433. Corequisite: BCH 432 or consent of instructor.
- 488-1 *Independent Reading* Junior standing and departmental approval required.
- 499-1 to 2 *Special Problems in Biological Chemistry* Senior standing and at least a 2.2 cumulative average required.

## Biological Sciences (BIO)

- BIO 111, 112 is designed as a sequential introduction to biological principles. Students may elect biological sciences courses for which they have the prerequisites to complete the three-course sequence.
- 111-4 *Principles of Biology: Ecology* Introduction to the basic concepts of biology. Topics include environment, ecology, and the diversity of life.
- 112-4 *Principles of Biology: Genetics and Evolution* Introduction to the basic concepts of biology. Topics include genetics, evolution, and the molecular and cellular basis for the unity of life. Prerequisite: majors in biological sciences—BIO 111, CHM 101 or 121; others—BIO 111.
- 113-4 *The Human as an Organism* Introduction to biology at the organismic and systematic level with emphasis on man. Topics reflect contemporary interests and usually include man as an evolved species, nutrition, disease and reproduction. Prerequisite: BIO 111, 112.
- 114-4 *Organismic Biology* Introduction to the structure and function of plants and animals. Prerequisite: BIO 111, 112.
- 119-1 *Honors Recitation, Principles of Biology (111, 112, 113)* Recitation/discussion section to review basic concepts developed in the laboratory. Coregistration in lecture and honors laboratory required.
- 199-1 *Introduction to Biological Investigation* For individually motivated students at the introductory level who wish to pursue some particular project under faculty supervision. Registration by permission of the supervising instructor only. A student may accumulate not more than three quarter hours of BIO 199, taken in three separate quarters. Graded pass/unsatisfactory.

### Departmental Unit Area Courses

- 202-5 *Microbiology* A study of morphology, cultivation, and biochemical activities of microorganisms. A survey of viruses, bacteria, blue-green algae, and fungi and their diversity in natural environments. 3 lect., 2 labs per week. Prerequisite: BIO 111, 112, CHM 141.
- 203-5 *Biology of Lower Plants* A study of the morphology, taxonomy, and ecology of algae, fungi, and bryophytes. Special emphasis will be given to growth and developmental patterns, modes of reproduction, importance to man and to ecosystems, diversity and distribution, and phylogenetic relationships. 2 lect., 2 labs. Prerequisite: BIO 111 and 112.
- 204-5 *Biology of Vascular Plants* A study of form, development, reproduction, and life histories of vascular plants. A survey of representative plant families emphasizing phylogenetic relationships, distribution, and vegetational types in natural habitats. 2 lect., 2 labs. Prerequisite: BIO 111 and 112.
- 205-5 *Biology of the Invertebrates* Morphology, development, physiology, and evolutionary relationships of major invertebrate groups. 3 lect., 2 labs. Prerequisite: BIO 111 and 112.



- 206-5 *Vertebrate Biology* An introduction to vertebrate animals, including adaptive morphology, comparative embryology and evolutionary history. 2 lect., 2 labs. Prerequisite: BIO 111, 112.
- 302-5 *Genetics* The nature and function of genetic material and its role in the quantitative, physiological, and population genetics of plants, animals, and man. 3 lect., 2 labs. Prerequisite: BIO 111, 112, and MTH 130 or consent of instructor.
- 303-5 *Vertebrate Histology* A study of vertebrate tissues and a survey of the microscopic structures of selected organs. The laboratory will emphasize basic preparative techniques and tissue recognition. 3 lect., 2 labs. Prerequisite: BIO 111, 112; CHM 141.
- 304-5 *Plant Physiology* Special aspects of plant physiology will be presented which set plants apart from other organisms. The laboratory introduces independent research concerning plant nutrition and bud development. 3 lect., 2 labs. Prerequisite: BIO 203 or 204, CHM 141.
- 305-5 *Animal Physiology* Basic adaptive mechanisms and their coordination in the activities of the metazoa. 3 lect., 2 labs. Prerequisite: BIO 111, 112 and 205 or 206; CHM 141.
- 306-5 *Environmental Biology* Introduction to ecology; emphasis on the organism's interaction with the environment. 3 lect., 1 lab. Prerequisite: for majors, completion of Area B requirement; for nonmajors BIO 111, 112, advanced standing, and consent of instructor.
- 307-6 *Cell Biology* Elements of cell structure are studied with emphasis on functional correlations. Laboratory experiments demonstrate principles of isolation, fractionation and purification of organelles; biochemical and physiological properties of cells and cell constituents; and metabolic interrelationships. 3 lect., 2 labs. Prerequisite: BIO 111, 112; CHM 211, 212; PHY 111.
- 402-6 *Molecular Biology* The molecular basis of the living state with emphasis on macromolecular structure and function and the molecular mechanisms for the transmission and expression of genetic information. 3 lect., 2 labs. Prerequisite: CHM 213; recommended preparation—BIO 202, 302.
- 403-5 *Developmental Biology* Elements of reproductive process in plants and animals; emphasis on embryological development and origin of tissues. 3 lect., 2 labs. Prerequisite: BIO 111, 112; CHM 141; BIO 303 and 402 recommended.
- 492-1 to 2 *Senior Seminar* Literature, survey, discussion and oral presentations of selected topics in the biological sciences. Written presentations will be required when offered for two credits, one recitation. Senior standing required.

### Additional Courses

- 292-1 *Introduction to Environmental Health* Introduction to the role of the environmental health profession in meeting current problems in public health and environmental quality.
- 301-5 *Physiology and Health* Basic structure and function of the human; consideration of health, disease, and abnormalities. Prerequisite: BIO 111, 112, 114 or consent of instructor. 2 lect., 1 lab.
- 360-3 *Principles of Environmental Health I* Relationship of physical and biotic environment to design and operation of systems and procedures employed in maintenance and promotion of a quality healthful human environment. Emphasis on air and water quality control and waste disposal methods. Intended for environmental health majors. Prerequisite: BIO 202; CHM 141.
- 361-3 *Environmental Health Field and Laboratory Practice I* Field and laboratory technology utilized in monitoring the environment and evaluating effectiveness of environmental control operations. Emphasis on air and water quality control and waste disposal methods. Intended for environmental health majors. Corequisite: BIO 360.
- 362-3 *Principles of Environmental Health II* Relationship of physical and biotic environment to design and operation of systems and procedures employed in maintenance and promotion of a quality healthful human environment. Emphasis on helminth- and arthropod-borne diseases, food sanitation and microbiology, and pesticide usage. Prerequisite: BIO 202, CHM 141.
- 363-3 *Environmental Health Field and Laboratory Practice II* Field and laboratory technology utilized in monitoring the environment and evaluating effectiveness of environmental control operations. Emphasis on helminth- and arthropod-borne diseases, food sanitation and microbiology, and pesticide usage. Corequisite: BIO 362.
- 364-3 *Principles of Environmental Health III* Relationship of physical and biotic environment to design and operation of a quality healthful human environment. Emphasis on radiological and occupational health, industrial hygiene, and housing safety. Prerequisite: PHS 218, 219, MTH 265, or consent of instructor.
- 365-3 *Environmental Health Field and Laboratory Practice III* Field and laboratory technology utilized in monitoring the environment and evaluating effectiveness of environmental control operations. Emphasis on radiological and occupational health, industrial hygiene, and housing safety. Corequisite: BIO 364.





- 366-9 *Environmental Health Field Internship* One-quarter faculty- and professional environmentalist-supervised internship in a cooperating environmental or public health agency or organization. Reports and specific assignments determined in cooperation with internship director. Graded pass/unsatisfactory. Prerequisite: BIO 360, 365. Enrollment limited to environmental health majors; consent of internship director required.
- 375-3 *The Biology of Human Sex* Human reproductive physiology, including family planning, fertility, and introduction to human development. Introduction to physiologic genetic and anatomic sexual dysfunction. Prerequisite: one year of introductory biology and junior standing, or consent of instructor.
- 401-3 *Topics in Modern Biology* Current thought in the interpretation of biological phenomena. For secondary school teachers of biology and science majors. Cannot be used for credit toward B.S. or B.A. in biology. 2 lect.
- 411-6 *The Aquatic Environment* Introduction to limnology. Field and laboratory course concerned with physical, chemical, and biological factors that characterize natural waters. Recommended preparation: BIO 306 or equivalent or consent of instructor. 2 lect., 2 lab., and field trips.
- 412-6 *Aquatic Communities* Analysis of the functional relationships of organisms with the aquatic environment; special emphasis on species interactions. Recommended preparation: BIO 306 or equivalent. 2 lect., 2 lab., field trips.
- 413-5 *Biological Problems of Water Pollution* Introduction to biological aspects of water pollution. Lectures, discussions, laboratories, and field trips on various types of pollutants and their impact on aquatic life. 2 lect., 2 lab., and required field trips. Recommended preparation: BIO 411 or consent of instructor.
- 417-3 *Evolution* (Taught jointly with Department of Religion; see REL 417.) Introduction to the biological, philosophical, theological, and ethical aspects of the concept of evolution. Consent of instructor required.
- 428-3 *Biology of Slime Molds* The biology of the slime molds will include primarily the protosteliales, acrasiales, and myxomycetes. For each group the life cycle, the ultrastructure, and gross morphology of developmental stages, and the natural relationships and taxonomy will be discussed and demonstrated. The course is designed primarily for students or in-service teachers who may wish to use these organisms in future classroom teaching or research. Prerequisite: BIO 111, 112, 202, and junior standing or consent of instructor.
- 430-3 *Radiation Biology* Introduction to the nature of ionizing radiation, its biological effects, and its applications to biological problems. Prerequisite: BIO 403, CHM 213, MTH 131, PHY 113 or consent of instructor.
- 432-3 *Plant Biochemistry* (Taught jointly with Department of Biological Chemistry; see BCH 432.) Detailed study of the biochemistry of photosynthesis, respiration, and other metabolic and biosynthetic processes in plants. Prerequisite: BCH 421 and 423.
- 433-2 *Laboratory for Plant Biochemistry* (Taught jointly with Department of Biological Chemistry; see BCH 433.) Experiments follow the subject matter sequence of BIO 432. 1 lab. Corequisite: BIO 432 or consent of instructor.
- 434-2 *Introduction to Medical Laboratory Science* Introduction to procedures and techniques related to clinical laboratory function. Prerequisite: completion of preprofessional medical technology curriculum. Enrollment limited to medical technology interns.
- 435-2 *General Laboratory Methods* Specimen collection and operation of basic clinical laboratory instruments. Must be taken concurrently with BIO 434. Enrollment limited to medical technology interns.
- 436-5 *Diagnostic Microbiology* Application of microbiological principles to diagnosis, infection, and resistance. Prerequisite: completion of preprofessional medical technology curriculum. Enrollment limited to medical technology interns.
- 437-5 *Methods of Diagnostic Microbiology* Laboratory experiments in diagnostic microbiology. Must be taken concurrently with BIO 436. Enrollment limited to medical technology interns.
- 438-5 *Clinical Chemistry* Application of principles of biochemistry to the human in health and disease. Prerequisite: completion of preprofessional medical technology curriculum. Enrollment limited to medical technology interns.
- 439-5 *Clinical Laboratory: Biochemistry* Laboratory course using current clinical chemistry techniques for the analysis of human tissues and fluids. Must be taken concurrently with BIO 438. Enrollment limited to medical technology interns.
- 440-2 *Renal Function* Anatomy and physiology of the renal system in relation to urine composition in health and disease. Prerequisite: completion of preprofessional medical technology curriculum. Enrollment limited to medical technology interns.
- 441-3 *Laboratory Study of Renal Function* Laboratory study of cellular and chemical components of urine. Enrollment limited to medical technology interns.
- 442-3 *Hematology* Study of hematopoiesis blood cell cytology and clotting mechanisms of human blood. Prerequisite: completion of preprofessional medical technology curriculum. Enrollment limited to medical technology interns.
- 443-5 *Hematology Laboratory* Laboratory study of cellular elements of blood and hemostasis. Must be taken concurrently with BIO 442. Enrollment limited to medical technology interns.
- 444-3 *Immunohematology* Immunology and genetics of human blood groups and types. Prerequisite: completion of preprofessional medical technology curriculum. Enrollment limited to medical technology interns.



- 445-3 *Immunohematology Laboratory* Study of immunology as applied to human blood isoantigens and isoantibodies. Must be taken concurrently with BIO 444. Enrollment limited to medical technology interns.
- 446-2 *Immunology* Study of antigens and antibodies with emphasis on *in vivo* and *in vitro* reactions. Prerequisite: completion of preprofessional medical technology curriculum. Enrollment limited to medical technology interns.
- 447-3 *Laboratory Immunology: Serology* Study of detection and measurement of antigens or antibodies using *in vitro* systems. Must be taken concurrently with BIO 446. Enrollment limited to medical technology interns.
- 448-2 *Clinical Pathology Correlation* Correlation of clinical laboratory findings with different human physiological states. Prerequisite: completion of preprofessional medical technology curriculum. Permission of department required. Enrollment limited to medical technology interns.
- 449-2 *Clinical Pathology Seminar* Presentation and discussion of topics in clinical laboratory medicine. Prerequisite: completion of preprofessional medical technology curriculum. Permission of department required. Enrollment limited to medical technology interns.
- 452-3 *Advanced Genetics* Basic concepts of genetic control of form, function, and change in biological systems; emphasis on microbial, developmental, and biochemical genetics. Prerequisite: BIO 302, 402, or consent of instructor. 2 lect.
- 453-3 *Advanced Genetics Laboratory* Illustrates some aspects of microbial, biochemical, and developmental genetics. Prerequisite: BIO 452 or concurrent registration. 2 lab.
- 461-3 *Problems in Environmental Health Seminar-workshop* in professional aspects of environmental health. Enrollment limited to environmental health majors who have completed field internship. Prerequisite: BIO 366 or consent of instructor.
- 462-3 *Environmental Aspects of Human Disease* Communicable and occupational diseases of contemporary importance; includes epidemiological investigation, environmental considerations, and control procedures. Prerequisite: BIO 360-365 or MIC 426 or consent of instructor.
- 463-3 *Community Public Health Resources and Administration* Lecture-seminar course for allied health students and personnel covering principles of public health organization and administration, public health law, comprehensive health planning, and the community services provided by health-related agencies. Prerequisite: BIO 461 or permission of instructor.
- 464-3 *Food Sanitation* Lecture-seminar course for allied-health students and personnel covering the principles and problems of food sanitation. Prerequisite: a course in microbiology and senior standing.
- 470-3 *General Entomology* Basic study of morphology, physiology, habits, and classification of insects. Useful preparation for high school biology teachers and professional students. Prerequisite: BIO 111, 112, 114, and junior standing. 3 lect.
- 471-2 *General Entomology Laboratory* Introduction to morphology, physiology, and identification of insects. Student collection and field trips required. Corequisite: BIO 470. 2 lab.
- 473-1 *Marine Field Trip* Week-long field trip to selected coastal locations. A variety of habitats will be visited and organisms collected in their natural environment. Recommended preparation: BIO 205 or equivalent and permission of instructor. A special fee is applicable. This course may be repeated.
- 474-6 *Ecological Physiology of Aquatic Animals* Physical and chemical adjustment, tolerance, and acclimation of organisms to the aquatic habitat. Recommended preparation: BIO 305 and 411 or equivalent. 1 lect., 3 lab.
- 476-2 *Human Parasitology* Medical aspects of parasitology, such as pathology, symptomatology, diagnosis and identification of parasites. Divided into three major categories: human protozoology, human helminthology, and human arthropodology. Primarily for medical technologists, biology teachers, and environmental health students. Junior standing or permission of instructor required. 2 lect.
- 477-3 *Human Parasitology Laboratory* Examination and identification of protozoan, helminthic, and arthropod parasites of man. Corequisite: BIO 476. 2 lab. Junior standing or permission of instructor required.
- 478-4 *Animal Behavior* Physiology, phylogeny, and ontogeny of behavior. Also listed as PSY 478. Prerequisite: PSY 111, 112, 211, or BIO 111, 112, 114, 305, and consent of instructors. 2 lect. 2 disc.
- 488-1 *Independent Reading* Junior standing and departmental approval required. Graded pass/unsatisfactory.
- 495-1 to 3 *Senior Honors Research* Acceptance into Biology Honors Program required.
- 499-1 to 3 *Special Problems in Biology* 2.2 cumulative grade point average and consent of department required.

## Chemistry (CHM)

- 101-4.5 *Introduction to Chemistry* Historical approach to the fundamentals of chemistry: composition and structure, properties and transformations of matter. For students with no previous chemistry. May be followed by CHM 102 or 121.
- 102-4.5 *Elementary Organic Chemistry with Applications* An elementary discussion of the structure of hydrocarbons, organic functional groups, and a few selected reactions. Prerequisite: CHM 101 or 121.



- 103-4.5 *Men and Molecules—The Chemical Enterprise* Topical study of ways in which chemical principles are applied in the modern world; impact of chemistry on society. Prerequisite: CHM 102 or 121.
- 121-4.5 *Submicroscopic Chemistry* Structure and properties of atoms and molecules and the macroscopic consequences thereof. Prerequisite: high school chemistry or CHM 101 and MTH 102.
- 122-4.5 *Macroscopic Chemistry* Physical and chemical behavior of large collections of atoms and molecules. Prerequisite: CHM 121.
- 141-4.5 *Quantitative Chemistry* Quantitative aspects of chemistry; emphasis on computational and experimental estimation of the composition of chemical systems. Prerequisite: CHM 122 and MTH 127.
- 211-4 *Organic Chemistry I* Principles, theories, and applications of the chemistry of carbon compounds. Prerequisite: CHM 122. Concurrent enrollment in CHM 215. 3 lect., 1 recit.
- 212-4 *Organic Chemistry II* Principles, theories, and applications of the chemistry of carbon compounds. Prerequisite: CHM 211. Concurrent enrollment in CHM 216. 3 lect., 1 recit.
- 213-4 *Organic Chemistry III* Principles, theories, and applications of the chemistry of carbon compounds. Prerequisite: CHM 212. Concurrent enrollment in CHM 217. 3 lect., 1 recit.
- 215-2 *Organic Chemistry Laboratory I* Laboratory illustrations of CHM 211 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 122. Concurrent enrollment in CHM 211. 4 lab.
- 216-2 *Organic Chemistry Laboratory II* Laboratory illustrations of CHM 212 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 215. Concurrent enrollment in CHM 212. 4 lab.
- 217-2 *Organic Chemistry Laboratory III* Laboratory illustrations of CHM 213 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 216. Concurrent enrollment in CHM 213. 4 lab.
- 311-7.5 *Qualitative Organic Analysis* Systematic classification and identification of organic compounds by chemical and instrumental methods. Prerequisite: CHM 213 and 217. 3 lect., 9 lab.
- 312-3 *Quantitative Analysis* An introduction to chemical methods of analysis covering traditional as well as modern techniques and equipment; emphasis on calculations and the interpretation of analytical data. Prerequisite: CHM 141. Concurrent enrollment in CHM 314. 3 lect.
- 313-3 *Instrumental Analysis* Introduction to the theory and practice of modern chemical instrumentation. Elementary electronics, spectrophotometry, atomic absorption, electrochemical techniques, chromatography, and other instrumental techniques. Prerequisite: CHM 312 and 452. Concurrent enrollment in CHM 315. 3 lect.
- 314-4.5 *Quantitative Analysis Laboratory* Experimental methods of analysis. Practical applications of the lecture material presented in CHM 312. Prerequisite: CHM 141. Concurrent enrollment in CHM 312. 9 lab.
- 315-4.5 *Instrumental Analysis Laboratory* An introduction to experimental instrumental analysis. Practical experience in the operation of chemical instrumentation; emphasizes applications of the material presented in CHM 313. Prerequisite: CHM 312 and 452. Concurrent enrollment in CHM 313. 9 lab.
- 319-1 *Chemical Literature* Introduction to chemical literature in journals, handbooks, abstracts, monographs, and patents. Literature searches required in a variety of chemical areas. Prerequisite: CHM 212 and 451. 1 lect.
- 410-3.5 *Environmental Chemistry I: Air* Study of earth's atmosphere, including its normal composition and atmospheric reactions; emphasis on nature, causes, effects, detection, and abatement of various types of air pollution. Prerequisites: CHM 213 and 312 or concurrent registration in CHM 414/614. 2 lect., lab or field project.
- 411-3.5 *Environmental Chemistry II: Water* Study of earth's fresh and saline water, including its normal composition and aquatic reactions; emphasis on nature, causes, effects, detection, and abatement of various types of water pollution. Prerequisites: CHM 213 and 312 or concurrent registration in CHM 415/615. 2 lect., lab or field project.
- 412-3.5 *Environmental Chemistry III: Solids* Survey of problems of solid wastes, pesticides, food additives, and radioactive materials, including their chemical composition, effects, detection, disposal, and natural breakdown. Prerequisite: CHM 213 and 312 or concurrent registration in CHM 416/616. 2 lect., lab or field project.
- 414-1 *Directed Study in Prerequisite Material for Environmental Chemistry I* Survey of topics in organic and analytical chemistry for students in CHM 410/610 who do not have previous knowledge of organic or analytical chemistry. Structure and reactions of selected compounds and principles of some analytical techniques briefly covered the week prior to their inclusion in Environmental Chemistry I. Prerequisite: CHM 121. Corequisite: CHM 410/610. Not open to students having credit in CHM 213 and 312 or their equivalent. 1 recitation.
- 415-1 *Directed Study in Prerequisite Material for Environmental Chemistry II* Survey of topics in organic and analytical chemistry for students in CHM 411/611 who do not have previous knowledge of organic or analytical chemistry. Structure and reactions of selected compounds and principles of some analytical techniques briefly covered the week prior to their inclusion in Environmental Chemistry II. Prerequisite: CHM 121. Corequisite: CHM 411/611. Not open to students having credit in CHM 213 and 312 or their equivalent. 1 recitation.



- 416-1 *Directed Study in Prerequisite Material for Environmental Chemistry III* Survey of topics in organic and analytical chemistry for students in CHM 412/612 who do not have previous knowledge of organic or analytical chemistry. Structure and reactions of selected compounds and principles of some analytical techniques briefly covered the week prior to their inclusion in Environmental Chemistry III. Prerequisite: CHM 121. Corequisite: CHM 412/612. Not open to students having credit in CHM 213 and 312 or their equivalent. 1 recitation.
- 420-3, 421-3 *Inorganic Chemistry* Principles and concepts of inorganic chemistry, including the periodic table, atomic structure, chemical bonding, coordination compounds, and an introduction to group theory. Prerequisite: CHM 453 or consent of instructor. 3 lect. Must be taken in sequence.
- 451-3, 452-3, 453-3 *Physical Chemistry* Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids. Prerequisite: CHM 141, MTH 134, PHY 242 or consent of instructor. 3 lect. Must be taken in sequence.
- 455-3 *Physical Chemistry Laboratory* Experimental methods of physical chemistry. Prerequisite: CHM 452. 6 lab.
- 456-4 *Physical Chemistry for Nonchemists* An introduction for nonchemistry majors to the ideas of physical chemistry, including thermodynamics, properties of liquids and solids, solution properties, and kinetics. Intended for biologists, geologists, physicists, premedical students, and others with an interest in physical chemistry; not open to chemistry majors. Prerequisite: one year each of college chemistry and physics; one quarter of calculus.
- 465-5, 466-5 *Introduction to Polymer Science* Introduction to principles and applications of the science of high polymers; laboratory illustrations of lecture material and techniques of polymer science. Prerequisite: senior standing, College of Science and Engineering, or consent of department and one year of college chemistry; 465 prerequisite to 466. 3 lect., 4 lab.
- 488-1 to 3 *Independent Reading* Consent of department required.
- 499-1 to 4 *Special Problems in Chemistry* Senior standing and consent of department required.

### Classical Humanities (CLS)

Courses under this heading do not require knowledge of Greek or Latin.

- 101-3 *Medical and Scientific Terminology* Spelling, recognition, and understanding of that portion of contemporary specialized vocabulary which is based on the Latin and Greek languages. Emphasis on terminology of the medical sciences.

- 111-3, 112-3, 113-3 *Introduction to the Classical Humanities* Civilizations of Greece and Rome approached through their literature. Interconnections between literature and art, history and archaeology, myth, legend, and politics. Problems in Greek and Roman society: conflict and resolution. 111: The Heroic and Archaic eras in Greece. The Trojan War, the beginnings of Athenian democracy, the Persian Wars. 112: Greece in the Classical Age. Greek drama: tragedy and comedy. Decline of Athenian democracy and the war between Athens and Sparta. 113: Rome. Legends of early Rome and their influence on later life and thought. The Roman Republic: growth of imperialism; the Roman revolution. Philosophy and poetry as mirrors of society.

The following courses offer a wide variety of topics; they may be repeated for credit by number, although not by content. The student should consult the department for the scheduled subjects.

- 310-3 *Studies in Ancient Literature* Drama, epic, and lyric poetry, prose; selected themes in ancient literature; literary criticism. Junior standing or permission of department required.
- 320-3 *Studies in Ancient Mythology* Greek and Roman mythology; aspects and approaches to the study of myth; archaeological and nonliterary sources. Junior standing or permission of department required.
- 330-3 *Studies in Ancient Law and Government* The law and legal systems of Greece and Rome; government and administration; political problems of the ancient world. Junior standing or permission of department required.
- 340-3 *Studies in Ancient Art and Archaeology* Greece in the Bronze Age; classical Greece and Rome; selected areas of Greek and Roman archaeology. Junior standing or permission of department required.
- 350-3 *Aspects of Ancient Culture and Society* Greek and Roman civilization, with evidence from art, literature, archaeology, law, and other sources. Junior standing or permission of department required.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of classics.
- 410-3 *Advanced Studies in Antiquity* Literature, mythology, law, and government. Prerequisite: consult the Department of Classics. Junior standing required.
- 481-3 *Independent Reading* Directed study in literature, mythology, archaeology, law, and government. Restricted to senior majors in department.

### Comparative Literature (CPL)

- 201-4, 202-4, 203-4 *Masterpieces of Western Literature* Comparative study and analysis of chronologically selected works from the literatures of the Western World. 201: Ancient World and Middle Ages. 202: Renaissance and Neoclassicism. 203: Romanticism to the Modern Period.



- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of comparative literature.
- 405-3 *Theory of Comparative Literature* History and development of comparative literature as a discipline; study of basic reference works and journals; papers and reports based on comparative studies. Junior standing or permission of instructor required.

## Computer Science (CS)

- 141-4, 142-4 *Introduction to Programming with FORTRAN* Introduction to use of computers as a problem-solving tool. Examples from and applications to a broad range of problems. FORTRAN is the current implementation language used. 3 hrs. lect., 2 hrs. lab. Prerequisite: for 141, none; for 142, CS 141.
- 152-4 *Introduction to Computing* Computer and program structure, machine and assembly language. Analysis of numerical and nonnumerical problems. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 141 or CS 210 or CS 300 or equivalent or permission of instructor.
- 210-3 *Introduction to FORTRAN for Engineers* Introduction to digital computers and computer programming with FORTRAN language. Algorithms and techniques useful to engineers. Data representation, debugging, and program verification. Programming assignments include solution of simultaneous equations, zeros of transcendental equations, numerical integration and differentiation, matrix operations, and complex arithmetic. Prerequisite: MTH 132.
- 260-4 *Introduction to Digital Computer Hardware* Intended to provide computer scientists, engineers, and other computer users with terminology and understanding of physical components used in computer hardware. Topics covered: numbers systems, computer elements and symbols, instrumentation, boolean algebra, and/or circuitry, registers, adders, and memories. Prerequisite: CS 152.
- 300-4, 301-4 *COBOL Programming* Elements of COBOL language; techniques for debugging and interpreting computer output; linkage to subroutines and overlays; file structures involving both sequential and random access; case studies with business applications. 3 hrs. lect., 2 hrs. lab. Prerequisite: for 300, ADM 103 or some computer science course or programming experience; for 301, 300.
- 310-4 *Assembly Language Programming—Sysuem 360-370* A thorough study of the basic assembler language of the system 360-370. Constant definition, conversions, moves, transfer of control and address manipulation, data manipulation, floating point and decimal modes, dumps, macros, conditional assemblies, and DCBs. Prerequisite: CS 152.
- 316-4, 317-4 *Numerical Methods for Digital Computers* Introduction to numerical methods used in the sciences. Methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. 3 hrs. lect., 2 hrs. lab. Prerequisite: for 316, MTH 233 and CS 210 or CS 141; for 317, CS 316.
- 390-4 *Use of Minicomputers* Introduction to the design and development of software and computer interfacing hardware for effective utilization of minicomputers in process control, data collections, and other special-purpose computing systems. All topics illustrated with practical examples using D.E.C. PDP-11.
- 391-4 *Introduction to Data Communication* Principles of digital communication are discussed from a conceptual point of view with an elementary survey of theoretical aspects. Trends are analyzed in the context of competing technologies, changing needs, and emerging new technologies.
- 392-4 *Use of Microprocessors* Introduction to the design and development of software and computer interfacing hardware for effective utilization of microprocessors in process control, data collecting, and other special purpose computing systems. Software topics: loaders, assembly language programming, input/output, interrupts, and timing problems. 3 hrs. lect., 2 hrs. lab. CS majors cannot take this course for credit.
- 393-4 *Assembly Language Prog-System 360/370* Topics include: elements of machine language and assembly language, constant definition, data conversion, data moves and manipulations, transfer of control and address modification, memory dumps and program debugging, data set definitions and usage, conditional assemblies, and executing and translating instructions. 3 hrs. lect., 2 hrs. lab. Knowledge of FORTRAN or COBOL required. CS majors cannot take this course for credit.
- 399-1 to 5 *Selected Topics* Selected topics in computer science. May be repeated. Permission of instructor required.
- 400-4 *Data Structures* Basic concepts of information. Modeling structures-linear lists. Modeling structures-multi-linked structures. Machine-level implementation structures. Storage management. Programming language implementation structures. Sorting and searching. Examples of use of information structures. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 141 or CS 210 or consent of instructor.
- 402-4 *File and Communication System* A survey of modern digital communications techniques. Special focus is on serial transmission over public communications channels. Topics include information content and coding, asynchronous and synchronous formats, concentrating and multiplexing, channel properties, modulation techniques, common carrier services, error sources and control, regulatory policies, networks and their analysis. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 260 or equivalent and knowledge of FORTRAN.



- 405-4 *Case Studies in Information Systems* Case studies of existing and proposed computer-based information systems, including "Management Information Systems." Particular systems selected on basis of general interest of the system itself and availability of high quality written material describing the system in detail. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 400.
- 420-4 *Computer Organization I* Functional organization and sequential operation of a digital computer. Stored-program computer description using a computer design language. Microprogramming. Fixed-point arithmetic units. Serial arithmetic units. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 260 or consent of instructor.
- 421-4 *Computer Organization II* Functional organization and sequential operation of a digital computer. Memory organization and addressing. Channels. Interface. Microprogramming software. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 420.
- 430-4, 431-4 *Advanced Programming* Machine language programming and use of assembly language programming systems for internal processing and control of external devices. A particular computer, machine language, and programming system used extensively to illustrate the concepts covered and to give the student actual programming experience. 3 hrs. lect., 2 hrs. lab. Prerequisite: for 430, CS 141 or CS 210 or consent of instructor; for 431, CS 430.
- 433-4 *Operating Systems I* Introduction to the role of software organization in general computer systems. Problems, techniques, and concepts in multiaccess, multiprogram, and multiprocess systems. 3 hrs. lect., 2 hrs. lab. Prerequisite: at least one 400-level computer science course.
- 434-4 *Operating Systems II* Concepts introduced in CS 433 are developed in greater detail and depth. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 433 or equivalent.
- 453-4 *Design of Small Computing Systems* Laboratory projects which combine engineering hardware and computer science software concepts in the design and implementation of small special purpose computer systems. 2 lect., 4 hrs. lab. Prerequisite: CS 421, 431.
- 470-4 *System Simulation* Introduction to simulation and comparison with other techniques. Discrete simulation models. Introduction to queuing theory and stochastic processes. Comparison of simulation languages. Simulation methodology and selected applications. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 400, ability to program in a language such as Fortran, and some knowledge of probability and statistics.
- 480-4 *Comparative Languages* Basic concepts and special purpose facilities in programming languages, examined through several representative languages. 3 hrs. lect., 2 hrs. lab. Prerequisite: CS 400.
- 499-1 to 5 *Selected Topics* Selected topics in computer science. Senior standing and permission of instructor required. Repeatable.

## Dance (DAN)

- 101-3 *Dance Techniques* Techniques in ballet and modern dance for students with previous background in either idiom. Audition required.
- 102-3 *Dance and Movement Techniques* Techniques in ballet and modern dance for students with previous background in either idiom. Continuation of DAN 101. Audition required.
- 111-3, 112-3, 113-3 *Fundamentals of Dance* Basic sequence for the nonmajor. Acquisition of bodily strength and coordination derived from study and practice of fundamentals of dance, including classical ballet, modern, and folk. Recommended for theatre majors. Must be taken in sequence.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of dance.

## Economics (EC)

- 103-3 *Evolution of American Industrial Society* Survey of the forces influencing the early economic development of America. Development of economic institutions in the United States.
- 201-3, 202-3, 203-3 *Principles of Economics* Fundamental economic principles as an aid in understanding modern society. 201: Introduction to economics; 202: Microeconomics; 203: Macroeconomics. Sophomore standing or consent of instructor required. Must be taken in sequence except by permission of department chairman.
- 300-3 *Consumer Economics* Role of consumer in terms of rights and responsibilities as a microunit in the macrosystem will be examined. Elementary education majors only; course cannot be used as substitute for any other economics requirement.

## Advanced Courses

Prerequisite for advanced courses: EC 201, 202, 203.

- 301-3 *Money and Banking* Analysis of behavior and significance of money, credit, debt, and the banking system.
- 315-4 *Intermediate Price Theory* Examination of general principles and analytical tools of microeconomic analysis.
- 316-4 *Institutional Economics* Economics of the American economy in its institutional forms and economic theory analyzed to comprehend the nature and problems of economic life and thought today.
- 317-4 *Intermediate National Income Analysis* Examination of macroeconomic variables in determining the national income, employment, and the price level.
- 321-3 *Economic History of Industrial Societies* Evolution of capitalistic and other economic societies with emphasis on interrelationships between economic, political, and social institutions.
- 330-3 *Urban Economics* Analysis of the economic processes and relationships that shape the urban economy. Economic problems facing metropolitan areas and alternative problem-solving techniques.



- 340-3 *Comparative Economic Systems* Comparison of chief characteristics of capitalism, communism, socialism, and fascism to clarify the economic process in a free-enterprise society.
- 351-3 *Labor Economics* Labor history and theory, allocation of jobs, unemployment, wage theory and analysis, collective negotiations and public policy.
- 352-3 *Labor Legislation* Public policy with respect to protective and labor management legislation. Prerequisite: EC 351 or consent of instructor.
- 354-3 *Economics of Human Resources* Economics of manpower development, structural change, labor markets, income maintenance programs, planning, training, placement, supporting services, and public policy.
- 360-3 *Current Economic Problems* Examination of selected economic problems of the present time. For nonmajors only.
- 370-3 *Environmental Economics* Analysis of the economics of water, air, and noise pollution, pesticide use, solid waste disposal, and land use practices. Emphasis on the effectiveness of regulation, prohibition, and zoning as well as subsidies and effluent charges as methods to combat environmental problems. Relationship between environmental decay and over-population, over-urbanization, and economic growth will be covered. Prerequisite: EC 201, 202, 203, or consent of instructor.
- 401-3 *Intermediate Managerial Economics* Role of economic analysis in management decision making.
- 402-3 *Monetary Theory* Development of theories of money, role of interest and monetary policy, and their relationship to national income, output, prices, and balance of payments.
- 409-4 *Introduction to Econometrics* Application of statistics to the testing of economic theory. Prerequisite: college algebra or consent of instructor.
- 410-4 *Mathematical Economics* Application of mathematical tools in the formulation of economic theory. Prerequisite: college algebra or consent of instructor.
- 412-3 *Economic Analysis and Forecasting of Business Cycles* Techniques and theories used in forecasting the business cycle. Prerequisite: EC 317 or consent of instructor.
- 425-3 *History of Economic Thought I* Writers from Adam Smith to Alfred Marshall.
- 426-3 *History of Economic Thought II* Twentieth-century writers.
- 428-3 *Marxian Economics* Examination and evaluation of Marxian and Neo-Marxian economics.
- 431-4 *Federal Public Expenditure and Taxation Analysis* Political economy of public expenditures, development of U.S. budget system, analytical techniques of benefit-cost analysis and federal taxation.
- 432-4 *State and Local Public Finance* Property, sales taxes, and the efficient provision of public and quasi-public goods such as education and public health services within context of multilevel systems of government and intergovernmental grant programs.
- 436-4 *Transportation and Public Utility Economics* Institutions and analytics for examining national, regional, and local transportation economics and the economics of public utilities and regulated industries.
- 440-3 *Regional Economics* Regional economic analysis in a policy and planning context. Interdisciplinary approach to analyze the economics of location, interregional trade, regional development, urban regions, and growth strategies.
- 441-3 *International Economics I* Economic basis of international trade; nature and mechanism of international payments.
- 442-3 *International Economics II* International economic policies and problems. Prerequisite: EC 441 or consent of instructor.
- 444-3 *Economics of Development* Theoretical and empirical analysis of cultural change and industrial development; emphasis on emerging economies.
- 454-3 *Economics of Collective Bargaining* Development of collective bargaining in the United States; economic cost of labor-management relations. Prerequisite: EC 351 or approval of instructor.
- 470-3 *Public Policy Economics* For non-economics majors; covers current major issues. Topics include: inflation, unemployment, technology, welfare, direct controls, tax reform, and government legislation.
- 477-3 *Economic Studies* Examination of special economic issues. Consent of instructor required.
- 480-3 *Senior Seminar in Economics* Examination of selected economic issues with a view to integrating the discipline. Senior standing; economics major or consent of instructor required.
- 481-1 to 3, 482-1 to 3, 483-1 to 3 *Independent Reading* Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area. Consent of instructor and chairman of economics department required.

## Education (ED)

- 101-1 to 2 *Interpersonal Process Learning Laboratory* Selection of courses to explore such areas as listening, communicating, life planning, sexuality, the helping relationship, with emphasis on interpersonal process.
- 119-1 to 5 *Externship in the Public Schools* Supervised field experience. May include tutoring, working with small groups of children, supervising classrooms and recreational activities, and planned observations. Approval of College of Education required. May be repeated once.
- 201-3, 202-3, 203-3 *Educational Psychology* Psychological principles with emphasis on application to teaching. ED 201 is not open to students who have had PSY 111, 112. Prerequisite: for 202, ED 201 or PSY 111, 112 or equivalent; for 203, ED 202 or consent of instructor.



- 219-1 to 8 *Assistant Teacher in the Public Schools* Supervised experience in which the student assumes a position as a member of an instructional team to perform such functions as preparing instructional materials, routine managerial tasks, supervising playground, lunch room, bus activities, and working with small groups of pupils. Approval of College of Education required.
- 241-3, 242-3, 243-3 *Physical Science Content* of the physical sciences integrated to promote understanding of and intelligent interaction with physical aspects of environment. Lecture and lab must be taken concurrently. Prerequisite: for 242, 241 or consent of instructor; for 243, 242 or consent of instructor.
- 302-3 *Classroom Management* The course is designed to provide prospective teachers with various strategies used to effectively manage a classroom. Emphasis is placed upon a preventative approach. One half day per week participation experience required during enrollment in this course. Prerequisite: PSY 111, 112; ED 202, 203 or permission of instructor.
- 311-3 *Elementary School Science: Curriculum and Materials* Study of basic principles, methods, curriculum trends, and material; individual laboratory work. Prerequisite: ED 203 or equivalent and at least eleven hours in science including ED 241 or consent of instructor. Participation experiences required during enrollment in this course.
- 312-3 *Sociology of Early Childhood Education: Sociocultural Elements* Historical, philosophical, and sociological aspects of early childhood education. Emphasis on the development of race awareness in young children and the development of self-concept. Prerequisite: ED 411 or 412 or consent of instructor.
- 315-3 *Elementary School Children's Literature: Curriculum and Materials* Introduction to children's literature. Wide reading of children's books with emphasis on selection and use of books and related activities in the elementary school. Prerequisite: ED 119, 203.
- 316-3 *Elementary School Language Arts: Curriculum and Materials* Language and communication in elementary school, including practices and materials used in teaching oral and written communication. Prerequisite: ED 315 or equivalent.
- 317-3 *Elementary School Reading: Curriculum and Materials* Practices and materials used in the teaching of reading and related skills in the elementary school. Prerequisite: ED 315 and 316 or equivalent.
- 318-3 *Elementary School Mathematics: Curriculum and Materials* Instructional materials and methods of meaningful explanations of mathematics in the elementary school based upon structural properties of number and numeration system studies at this level. Prerequisite: ED 119, 203 or equivalent and MTH 344. One half-day per week participation experience required during enrollment in course.



- 329-2 *Basic Teaching Skills: Secondary* An in-depth analysis and practical application of those teaching skills common to all subject areas. Course is clinic based, emphasizing the application of skills. Prerequisite: ED 203 or equivalent and junior standing. Concurrent enrollment in appropriate curriculum and materials course.
- 332-3 *Secondary School English: Curriculum and Materials* Curriculum, methods, and materials for language arts in the secondary school; current trends in teaching English. Prerequisite: ED 119, 203 or equivalent, junior standing, and twenty-two hours in the teaching field including ENG 341. Concurrent enrollment in ED 329. One half-day per week participation experience required during enrollment in course.
- 333-3 *Secondary Speech and Drama: Curriculum and Materials* Curriculum and materials for those preparing to teach speech and drama in secondary schools: curriculum, teaching methods, class organization, producing plays, and cocurricular activities. Prerequisite: ED 119, 203 or equivalent, junior standing, and twenty-four credit hours in the teaching field with at least nine hours at the 300 level or above. Concurrent enrollment in ED 329. One half-day per week participation experience required during enrollment in course. Offered once each year.
- 334-3 *Modern Foreign Languages: Curriculum and Materials* Modern language curriculum in public schools; purposes; methods; materials. Prerequisite: ED 119, 203 or equivalent; 203 course in language field; and junior standing, or consent of instructor. Concurrent enrollment in ED 329. One half-day per week participation experience required during enrollment in course. Offered once each year.



338-3 *Secondary School Mathematics: Curriculum and Materials* Curriculum, methods, and materials in the mathematics of grades 7-12. Prerequisite: ED 119, 203 or equivalent and at least thirty hours in mathematics. Concurrent enrollment in ED 329. One half-day per week participation experience required during enrollment in this course. Offered once each year.

370-1 to 9 *Independent Reading and Minor Problems* Planned reading and/or project under the guidance of a faculty member of the College of Education. Senior standing in education and written consent of dean prior to registration required. Students limited to a maximum of three hours in any one quarter.

### Advanced Courses

Courses numbered 400 or above require junior or senior standing in education. Certain courses have additional prerequisites.

403-3 to 4 *Child Development* Factors that influence growth and development. Prerequisite: ED 203 or equivalent, junior standing.

404-3 *Adolescent Development* Examination of adolescence; particular attention to physical development and its psychological and social concomitants and to the effect upon the adolescent of social forces, especially schools. Prerequisite: ED 203 or equivalent.

405-3 *Current Tendencies in Education* Consideration of current trends and theories in education; development of criteria and procedures for their evaluation and implementation. May be repeated for maximum of twelve hours.

406-3 *Survey of Vocational Education* An overview of the instructional programs in vocational education with emphasis on the types of programs, their administration, and their relationship to other phases of education. The vocational services covered include business and office education, distributive education, agricultural education, home economics education, industrial arts education, health occupations, technical education, trade and industrial education, and vocational guidance. Junior standing required.

407-3 *Cooperative Office Education* Qualifying course for Cooperative Office Education programs. An overview of Cooperative Office Education with emphasis on coordinating techniques applicable in high school, post-high school, and adult training areas. Prerequisite: ED 433.

408-3 *Intensive Office Education* Qualifying course for Intensive Office Education. A comprehensive study in developing procedures and principles in program construction, selection, improvement, implementation, and development of program guidelines. Prerequisite: ED 433.

411-4 *Early Childhood Education* Growth and development of preschool child with emphasis on interpretation of anecdotal records and case studies. For individuals planning to teach in nursery schools and kindergartens. One half-day per week participation experience required during enrollment in this course. Prerequisite: ED 119, 203 or equivalent.

412-4 *Kindergarten: Curriculum and Materials* Various types of early childhood programs in the United States. Research in historical background of such programs. Review of basic human growth and learning principles significant for understanding young children, prenatal through age 8. Focus on planning effective preschool programs. One half-day per week participation experience required during enrollment in this course. Prerequisite: ED 119, 203 or equivalent.

413-3 *Elementary School Geometry: Curriculum Materials* Prepares elementary teachers to teach geometrical concepts included in today's K-6 mathematics program. Emphasis on informal approach to teaching geometry using experimentation, intuition, and guided discovery. Prerequisite: ED 318 and MTH 345 or equivalent, or permission of instructor.

414-4 *Early Childhood Education Curriculum and Materials: Language* Review of developmental patterns of language, sequence of stages, general language patterns, and characteristics of speech of the young child. Study of linguistic differences as basis for preparation of curriculum and materials for instruction of young children. Basic emphasis on existing commercial materials for preschool language development, evaluation of these materials, and design and presentation of supplementary and basic teacher-made materials. Prerequisite: ED 119, 203; SPC 421 recommended.

415-3 *Improvement of Elementary Reading Instruction* Curriculum, methods, materials, and evaluation in reading designed to improve the teacher's instructional skills. One half-day per week participation experience required during enrollment in course. Prerequisite: junior standing or ED 315, 316, 317 or permission of instructor.

416-3 to 4 *Improving Science Instruction in the Elementary School* Selected scientific principles that have particular application in the elementary school. Inquiry through a laboratory approach emphasized. Prerequisite: BIO 111, 112, 113; ED 241, 242, 243 or equivalent; or consent of instructor.

417-3 to 4 *Elementary School Social Studies: Curriculum and Materials* Objectives, principles, and trends in elementary social studies education. Prerequisite: ED 119, 203 or equivalent. One half-day per week participation experience required during enrollment in course.

418-3 to 4 *Advanced Mathematics Instruction in the Elementary School* For teachers or supervisors who desire study in improvement of instruction. Prerequisite: ED 203, 318 or equivalent.

419-4 to 15 *Supervised Teaching, Elementary* Student teachers, assigned to a public school full time, work under direct supervision of an experienced classroom teacher. In the fall, student teaching begins in September with the opening of the public schools and continues for approximately fifteen weeks to the end of the fall quarter. During the winter and spring quarters, the period of student teaching corresponds with the respective academic quarter. A student may receive fifteen credit hours for student teaching in the fall and



- twelve credit hours for winter and spring quarters. No student teaching during the summer. Formal application must be made through the office of the Director of Laboratory Experiences during the first two weeks of the quarter prior to student teaching. Concurrent enrollment in ED 422 and consent of director of laboratory experiences required. Student teaching and ED 422 constitute a full load for the quarter. No other course work may be taken. Prerequisite: 112 credit hours (at least twelve of which must have been taken at Wright State), participation experiences, a 2.0 cumulative grade point average, and completion of ED 315, 316, 317, 318 or equivalent with grade of C or better. In addition, students in special education must also complete ED 441, 442, 455, 456, and 302 with a grade of C or better. Students seeking kindergarten certification must also complete either ED 411 or 412, or 414 with a grade of C or better.
- 420-3, 421-3 *Books and the Educational Program* Selection and use of literary and informational trade books in the educational program. 420: Beginning books, the art of children's books, wide use of picture story books, the place of books of poetry, music, art. 421: Books for the late primary, middle grades, and young adults.
- 422-3 *Student Teaching Seminar* Discussion of problems and concerns encountered during student teaching to bring professional theory and practice into working perspective. Corequisite: ED 419 or 429.
- 423-3 *Human Factors in Driver and Traffic Education* Normal and abnormal characteristics of human beings as operators of motor vehicles. Special attention to the relation of personal characteristics to potential accident causation. Prerequisite: ED 202, 203, 427, and 428 (427 and 428 may be taken concurrently). Senior standing required.
- 424-3 *Consumer Education in the Schools* Problems of the consumer: money management, credit and borrowing, life and other forms of insurance, real estate ownership, savings, and investment problems. Means of incorporating consumer education in the curriculum.
- 425-3 *Organization and Administration in Distributive Education* Understanding the organization and administration of distributive education in Ohio as it relates to federal concept on U.S.O.E. Includes federal and state funding patterns involved in Ohio as well as federal legislation and funding. Prerequisite: ED 203 or equivalent and junior standing.
- 426-2 to 4 *Outdoor Education* Provides teachers and leaders seeking skills in the use of the out-of-doors as a resource for program or curriculum enrichment; laboratory experiences and field work in a variety of biotic communities emphasizing ecological relationships.
- 427-3 *Driver and Traffic Safety Education: Curriculum and Materials* Analysis of driving tasks. Selection of curriculum materials and evaluation techniques for teaching the various factors affecting driver and traffic safety. Prerequisite: ED 203 and senior standing in education or permission of instructor.
- 428-3 *Organization of Driver and Traffic Safety Education Programs* Organizational aspects of driver and traffic safety education as they relate to the total school program. Historical and philosophical aspects, related professional organizations, and occupational opportunities. Objectives, role, and organization of driver education laboratories. Laboratory experiences provided. Prerequisites: ED 203 and 427 (427 may be taken concurrently).
- 429-4 to 15 *Supervised Teaching, Secondary* Same as ED 419 except applied to secondary level. Prerequisite: appropriate curriculum and materials course with grade of C or better and ED 464 with grade of C or better; 126 credit hours (at least twelve of which must have been taken at Wright State, normally including work in both academic major and professional education); participation experiences; 2.0 cumulative grade point average; 2.25 cumulative average in teaching field specific course prerequisites in academic majors vary. See description under major field.
- 430-3 *Teaching About Religion in the Public Schools* (Taught jointly with Department of Religion; see REL 430.) Introduction to the historical background and court decisions pertaining to teaching about religion in the public schools; current ways in which religion is taught in the public school; new experimental approaches to teaching about religion.
- 431-3 *Secondary School Science: Curriculum and Materials* Curriculum and materials for teaching science; emphasis on objectives, evaluation, planning, resources and facilities, and curricular trends in science education. Prerequisite: ED 119, 203 or equivalent and junior standing. Concurrent enrollment in ED 329. One half-day per week participation experience required during enrollment in course.
- 432-3 *Improving Reading in the Secondary School* Techniques of diagnosing and correcting reading problems of secondary students. Exploration of secondary reading programs with emphasis on skill development. Prerequisite: ED 203 or equivalent. One half-day per week participation required during enrollment in course.
- 433-2 *Introduction to Business and Distributive Education* Survey of business and distributive education philosophy, objectives, and curricula on the secondary and post-secondary levels. Prerequisite: ED 119, 203 or equivalent and junior or senior standing. One half-day per week participation experience expected during enrollment in course.
- 434-3 *Business Education Curriculum and Materials: Typewriting and Office Procedures* Curriculum, methods, and materials in typewriting and office procedures in the secondary school; current trends in teaching typewriting and office procedures. Prerequisite: ED 433, or may be taken concurrently.
- 435-3 *Business Education Curriculum and Materials: Shorthand and Transcription* Curriculum, methods, and materials in shorthand and transcription in the secondary school; current trends in teaching shorthand and transcription. Prerequisite: ED 433, or may be taken concurrently.



- 436-3 *Business Education Curriculum and Materials: Basic Business, Accountancy, and Sales Communication Curriculum*, methods, and materials in the basic business subjects, bookkeeping, and sales communication. Current trends in the teaching of these areas. Prerequisite: ED 433, or may be taken concurrently.
- 437-3 *Methods of Teaching Distributive Education* Selection, organization, and presentation of subject matter in high school and adult extension programs. Methodology and teaching techniques will be emphasized through theory and practice. Prerequisite: ED 119, 203 or equivalent. One half-day per week participation experience required during enrollment in course.
- 438-3 *Coordination Techniques in Distributive Education* Procedures in organizing and implementing a Distributive Education program, including recruitment and selection of students and training stations; and in-depth study of the duties, problems, and techniques involved in coordination. Prerequisite: ED 203 and junior standing.
- 439-3 to 4 *Secondary School Social Studies: Curriculum and Materials* Objectives, principles, and trends in secondary social studies education. Prerequisite: thirty hours in the field for history, seventy hours in the field for social studies comprehensive, and ED 119, 203 or equivalent. Concurrent enrollment in ED 329. One half-day per week participation experience required during enrollment in course.
- 440-3 to 4 *Senior Seminar in Education* A foundations course dealing with critical and social issues which affect education; emphasis on developing a philosophy of education. Senior standing required. Recommended after student teaching; cannot be taken concurrently with student teaching.
- 441-3 *Mental Retardation and Developmental Disabilities* Causes and effects of mental retardation and related developmental disabilities in home, school, and community settings. Prerequisite: ED 119, 203, 403 or equivalent. Junior standing or permission of instructor required.
- 442-4 *Curriculum Development and Materials for Exceptional Children* Practices and procedures used in developing curricula for exceptional children, including preparation, selection, and adaptation of instructional materials. Emphasis on a persisting life problems approach including social studies and science content. Participation experiences required during enrollment. Prerequisite: ED 119, 203, 403, 441, 455 or equivalent; ED 441, 455 may be taken concurrently. Junior standing or permission of instructor required. One half-day per week participation experience required during enrollment in course.
- 445-3 *Occupational Training for Mentally Retarded* Role of occupational training in the curriculum; relationships with the world of work; problems of organizing and administering; methods and techniques used in developing occupational interests and abilities at various levels. Participation experiences required during enrollment in course. Prerequisite: ED 441, 442, 455 or permission of department. Junior standing or permission of instructor required.
- 447-4 *Teaching in the Public School* Study, observation, and evaluation of practices. Offered only to students who have completed the pertinent curriculum and materials course and are seeking a waiver of all or part of student teaching on the basis of full-time teaching experience. Offered only in summer.
- 449-3 to 4 *Audiovisual Materials and Methods* Role of visual and auditory instruction; psychology of and educational principles pertinent to such instruction. Prerequisite: curriculum and materials course or courses.
- 455-3 *Education of Children with Learning Disabilities / Behavior Disorders* Overview of specific problems and major remedial approaches to children with learning disabilities and behavior disorders. Prerequisite: ED 119, 203, 403, 441. (ED 441 may be taken concurrently.) For nonelementary majors: ED 317, 318, junior standing, or permission of instructor.
- 456-3 to 5 *Clinical Practice in Remediation* Supervised clinical practice in the diagnostic teaching of exceptional children. Emphasizes assessment reading and math curriculum and materials. Prerequisite: ED 317 or 415, 318, 441, 455, 442.
- 458-4 to 9 *Practicum in Education* A supervised teaching experience for students who have completed student teaching (or its equivalent) and are seeking certification in another field. Permission of instructor required.
- 459-3 *Techniques in Counseling Parents of Exceptional Children* Overview of the exceptional child's effects on the family unit and concerns and feelings of family about child. Techniques in counseling parents of special children. Prerequisites: ED 455, 441, or permission of instructor.
- 461-3 *Principles of Guidance* Emphasizes student's understanding of his personal frame of reference with respect to guidance and counseling principles and services. Social, psychological, and philosophical influences. Senior standing in education required.
- 462-3 *Pupil's Personality Problems* Applies personality and developmental theories, perspectives in mental health, and family and school environmental influences toward the recognition and resolution of the problems of pupils. Senior or graduate standing in education or consent of the instructor required.
- 463-3 *Mental Health* Factors influencing behavior of individuals; methods a counselor may use in observing, analyzing, and improving attitudes and behavior. Senior or graduate standing in education or consent of instructor required.



- 464-3 to 4 *Evaluation* Evaluation of learning, including selected forms of measurement and interpretation of data: sociometric techniques, anecdotal records, and testing. Prerequisite: ED 203 or permission of instructor.
- 470-1 to 6 *Curriculum and Instruction Workshop* (Specific subtitles to be added with individual workshops.) Intensive study of a selected area of the school curriculum to meet the particular needs of the participating preservice and inservice teachers, administrators, and curriculum supervisors. Senior or graduate standing in education or consent of instructor required. May be repeated for a maximum of nine quarter hours.
- 481-3 *Curriculum in Distributive Education* Securing, evaluating, and organizing instructional material and the development of curriculum and experiences for high school distributive education cooperative classes and adult distributive education courses. Prerequisite: educational psychology, Organization and Administration of Distributive Education, and senior standing.
- 490-4 to 12 *Internship in the Schools* Assuming major responsibility for a group of pupils in a classroom setting for an academic year while having the support and guidance of school and university personnel. Prerequisite: satisfactory completion of student teaching and a minimum of 162 quarter hours completed. Senior standing required.

## Engineering (EGR)

- 121-2.5 *Engineering Drawing* Covers basic techniques of proper use of drafting instruments in general. Includes exercises in lettering, types of lines, free-hand sketching, geometric constructions, multiview projections, sectional, auxiliary, and pictorial views, and dimensioning. 1 hr. lect., 3 hrs. lab. Meets at Sinclair Community College.
- 141-3 *Development of Engineering and Technology* History and concepts of machine design and relations between machines and culture. Emphasis on dependence of a complex culture on the machines that serve it. Relations between engineering and science explored in several subject areas. Open to any student in the university.
- 212-4 *Statics* Forces, resultants, components, equilibrium of particles, equilibrium of rigid bodies, centroids and centers of gravity, analysis of structures, friction, moments of inertia. Prerequisite: MTH 133.
- 213-5 *Dynamics* Kinematics of particles and rigid bodies; force, mass and acceleration; work-energy for particles and rigid bodies; impulse-momentum for particles and rigid bodies; mechanical vibrations. Prerequisite: EGR 212, MTH 134, and one quarter of physics (PHY 111, 240, or 270).
- 231-1 *Contemporary Areas of Engineering Physics* Specification of areas to which engineering physics is relevant. Discussion of specific problems in fields such as space science, fluid and plasma dynamics, thermal science, instrumentation, design utilization of material properties, and nuclear engineering. For present or tentative engineering physics majors.
- 251-4 *Introduction to Systems Engineering I* Basic concepts of systems, decision making, optimization, and modeling with illustrations of the interaction of society and technology in such areas as health systems, transportation systems, and environmental systems. Laboratory exercises to reinforce these concepts. Prerequisite: MTH 130 and 131, or equivalent. 3 hrs. lect., 2 hrs. lab.
- 252-4 *Introduction to Systems Engineering II* Basic concepts of systems, communications and signals, feedback, stability, and the interaction of man and machine. Laboratory includes an introduction to report writing. Prerequisite: EGR 251. 3 hrs. lect., 2 hrs. lab.
- 300-3 *Technology and Society* (Taught jointly with Departments of Sociology and Religion; see REL 300, SOC 302.) Important developments in engineering and technology and their interrelations with society and human values. Analysis of significant historical events in technology and their social consequences. Assessment of possible impact upon society of contemporary technological developments. Open to juniors and seniors in all colleges.
- 306-4 *Engineering Psychology* (Offered jointly with the Department of Psychology.) Introduction to the study of human factors in the design and operation of machine systems. Prerequisite: PSY 111, 112.
- 313-5.5 *Strength of Materials* Axial and shear stresses and strains; biaxial loading; torsion of circular shafts; shear and bending moment diagrams; deflection of beams; combined stresses, theories of failure; column theory. Prerequisite: EGR 212, MTH 134, and one quarter of physics (PHY 111, 240, or 270). 4 hrs. lect., 3 hrs. lab.
- 315-4 *Thermodynamics* Classical thermodynamics with primary emphasis on the application of the first and second laws to thermal systems. Introduction to physical and chemical equilibria. Prerequisite: PHY 112, 241, or 272.
- 317-4 *Fluid Dynamics* Study of fluid properties; fluid statics; one-dimensional compressible and incompressible flows; flow of real fluids; flow measurement. Prerequisite: EGR 315. 3 hrs. lect., 2 hrs. lab.
- 318-4 *Heat Transfer* Principles that govern heat transfer in solids, in fluids, in vacuum, and at interfaces of solids and fluids. Laboratory experiments to illustrate these phenomena. Prerequisite: EGR 317. 3 hrs. lect., 2 hrs. lab.
- 321-5 *Linear Systems I* Mathematical description of linear systems via the writing and solution of equations. Emphasizes electrical systems while using concepts and techniques common to all systems analysis. Includes writing and solution of circuit equations, work and power, equivalent circuits and analogies, transfer functions, resonance, superposition, Laplace transforms, and Fourier series. Prerequisite: MTH 233 and PHY 113, 242 or 273. 4 hrs. lect., 1 hr. recit.



- 322-5.5 *Linear Systems II* Diversifies and extends concepts and techniques of systems analysis used in EGR 321. Mathematical description of a wide variety of system types including mechanical, electrical, thermal, and hydraulic, with emphasis on mechanical systems. Writing of equations describing the system and the solution of these equations by various means including analytical methods, electronic methods using analog and digital computers, and graphical phase plane techniques. Prerequisite: EGR 321. 4 hrs. lect., 3 hrs. lab.
- 323-4.5 *Linear Systems III* Generalizes, ties together, and extends the techniques of analysis developed in EGR 321 and 322. Systems studied using matrix techniques, Laplace transforms, Fourier series, transfer functions, block diagrams, and signal flow graphs. Prerequisite: EGR 322. 3 hrs. lect., 3 hrs. lab.
- 327-3.5 *Introduction to Analog Systems* Electrical and mechanical analog computing components, solutions to algebraic and differential equations, time and amplitude scaling, simulation techniques. Prerequisite: EGR 321. 2 hrs. lect., 3 hrs. lab.
- 341-4.5 *Electronic Devices* Introduction to basic solid-state electron devices. Fundamentals necessary for comprehension and further study of modern engineering electronics. Major topics: carrier flow in semiconductors, p-n junction theory, semiconductor diodes, bipolar junction transistors, field effect transistors, biasing, introduction to amplifiers. Prerequisite: EGR 321 or permission of instructor. 3 hrs. lect., 3 hrs. lab.
- 345-4 *Electromagnetics* Electrostatics and magnetism; induced electromotive force. Maxwell's equations and their physical interpretation and application. Prerequisite: EGR 321, MTH 233.
- 346-3 to 4 *Transmission Lines, Waveguides, and Radiating Systems* Plane waves in free space and matter. Development of the transmission line equations, application of Smith charts. Application of Maxwell's equations to the rectangular and circular waveguides. Introduction to radiating systems including the dipole and loop antennae. Actual design of typical systems containing transmission lines, waveguides, and antennae. Prerequisite: EGR 345 and consent of instructor.
- 350-4 *Introduction to Mechanical Design* Application of general principles and empirical relationships of mechanics of solids to the creative design of machines. Prerequisite: EGR 313.
- 356-4 *Principles of Nuclear Engineering* Radioactivity and neutron physics; nuclear and thermal analysis of fission power systems; nuclear safety; nuclear regulatory and environmental impact requirements. Prerequisite: MTH 233, PHY 242 or equivalent.
- 360-4 *Mechanical Vibrations* The modeling and analysis of single and multi-degree of freedom systems under free and forced vibration and impact, Lagrangian and matrix formulations, energy methods, introduction to random vibrations. Prerequisite: EGR 213 and 322.
- 370-3 *Materials Engineering Science: Introduction* Atomic theory, theory of ideal crystalline solids, behavior of real solid materials, phase equilibrium, phase transformations, response of materials to static mechanical forces, thermal properties of materials, electromagnetic properties, response of materials to chemical environments, and high molecular weight polymers. Prerequisite: PHY 242 and CHM 111 and 121 or equivalent.
- 371-3 *Manufacturing Materials and Processes* Properties and nature of materials, solid state changes in metals, ferrous metals, nonferrous metals, nature of manufacturing, casting process, foundry technology, theory of plastic flow, millwork and forging, press working of sheet metal, powder metallurgy, plastics, welding processes and design, welding equipment and procedures, machining fundamentals, machined shapes, cutting tools, machine tools, surface finishing and inspection. Prerequisite: PHY 242 and CHM 111 and 121 or equivalent.
- 403-4.5 *Measurement Systems* General concepts of measurement instrumentation of physical quantities and specific measuring devices for motion, force, torque, pressure, sound, flow, and temperature measurement. Prerequisite: EGR 322 or permission of instructor. 3 hrs. lect., 3 hrs. lab.
- 405-5 *Applied Electronics* Application of modern electronics for use in instrumentation and data, principally utilizing integrated circuits. Topics: useful circuit laws, transistor switches, flip-flops, ideal linear voltage amplifiers, operational amplifiers, feedback amplifiers, and measuring instruments. 3 hrs. lect. or independent study, 4 hrs. lab. (May not be taken for credit by students who take EGR 341.) Prerequisite: PHY 113 or equivalent or permission of instructor.
- 411-4 *Advanced Dynamics* Kinematics of a particle in three dimensions for various coordinate systems, fixed and moving. Dynamics of a particle and system of particles including work-energy and impulse-momentum. Kinematics of general rigid body motion. Principal axes of inertia. Eulerian angles. Dynamics of general rigid body motion. Lagrange's equations. Prerequisite: EGR 213.
- 415-3 *Advanced Thermodynamics* Power and refrigeration cycles, thermodynamic relations, phase and chemical equilibrium. Prerequisite: EGR 315.
- 421-5 *Communication Theory* Analysis of linear systems by the Fourier transform and the time convolution integral methods. Introduction to information theory. Comparative evaluation of various analog and pulse modulation techniques. Selected topics from radar theory and electro-optics as well as an introduction to random process theory. Prerequisite: EGR 322.
- 423-4 *Energy Conversion* Important new developments in energy conversion. Thermoelectric, photoelectric, thermionic, electromechanical, and electrochemical systems studied. Prerequisite: EGR 315, EGR 322.



- 425-4.5 *Control Systems I* Introduction to control systems using state variables and classical analysis. Closed loop system representation, block diagrams, time response, frequency response. Prerequisite: EGR 322. 3 hrs. lect., 3 hrs. lab.
- 426-4.5 *Control Systems II* System stability and closed loop response are analyzed using Routh-Hurwitz, Nyquist and root locus techniques. System specifications and compensation realized using state variables and classical analysis. Prerequisite: EGR 425. 3 hrs. lect., 3 hrs. lab.
- 430-4 *Distributed Systems* Distributed constants and traveling waves in various types of physical systems. A-C steady-state in distributed systems. Phase and group velocities. Reflections, standing wave ratios, and impedance matching techniques. Prerequisite: EGR 322. Suggested but not required: EGR 345.
- 432-3 *Optimization Techniques* Concepts of minima and maxima. Linear programming: simplex method, sensitivity, and duality. Transportation and assignment problems. Dynamic programming. Prerequisite: MTH 233, 255, or permission of instructor.
- 433-4 *Reliability Analysis* Elements of probability theory: events, probability axioms, random variables, discrete and continuous distributions, moments and characteristics functions. Applications of mathematical tools: component and system failure models. Marginal failures: initial tolerances, environmental drifts, transfer functions and sensitivities. Passive and active redundancy techniques. Repairable systems: maintainability, availability, and reliability acceptance. Prerequisite: EGR 322.
- 435-3 *Synthesis of Linear Systems* Positive real functions and their relation to physical realizability. Zero-pole structure of network impedance functions; properties and applications of frequency selective network; filter design by approximating functions. Prerequisite: EGR 322, 421, and consent of instructor.
- 441-4.5 *Electronic Circuits* Theory and application of basic engineering electronics developed for discrete and integrated circuits. Topics: bipolar and field effect transistor amplifier analysis and design, frequency response, multi-stage and feedback amplifiers. Prerequisite: EGR 341. 3 hrs. lect., 3 hrs. lab.
- 442-3 *Digital Computer Design* Functional design of a digital computer, including arithmetic and control units. Counters, adders, accumulators, multipliers, dividers, and memory devices and their logic. Prerequisite: EGR 450.
- 444-3 *Linear Integrated Circuits* Modular circuit concepts fundamental to analysis and application of linear integrated circuits. Topics: feedback and stability, operational and integrated amplifiers, active filters, waveform generators, and Schmitt triggers. Prerequisite: EGR 441 or equivalent.
- 449-4.5 *Pulse and Digital Circuits* Design and analysis of pulse and switching circuits including: linear wave shaping; diode wave shaping; logic types, DTL, DCTL, RTL, TTL, and ECL; bistable, astable, and monostable multivibrators; voltage comparators; Schmitt triggers; blocking oscillators; and magnetic core switching. Prerequisite: EGR 441. 3 hrs. lect., 3 hrs. lab.
- 450-3 *Switching Theory and Circuits* Logical design and simplification of combinational and sequential switching circuits with emphasis on the practical rather than abstract. Senior standing or consent of instructor required.
- 460-3 *Design and Analysis of Engineering Experiments* Introduction to planning and analysis of engineering experiments. Covers basic topics required for experimental work and their applications to engineering problems. Brief coverage of basic statistics, probability distributions, tests of hypothesis, linear regression and analysis of variance, and the application of these tools using randomized block, factorial, and fractional factorial experimental designs in investigation of engineering problems. Senior standing or consent of instructor required.
- 470-4 *Communication Systems Design* Introduction to communication system design. Topics: source characterization and encoding, choice of modems and the tradeoffs involved, choice of received configuration. Techniques developed applied in the design of a deep space communication system. Prerequisite: EGR 322, 421, permission of instructor.
- 471-3 *Human Factors in Driver and Traffic Education* Normal and abnormal characteristics of humans as operators of motor vehicles. Special attention to the relation of personal characteristics to potential accident causation. For education majors; may not be taken for credit by engineering majors.
- 472-3 *Seminar in Human Factors Engineering* Study of current research reports in human factors engineering. Reports to be studied will be selected from recent journals to be representative of work requiring engineering analysis and design as well as psychological experimentation and statistical analysis. Senior standing in human factors engineering required.
- 475-3 *Introduction to Radar Systems* Introductory study of the radar equation, antenna patterns, target cross sections and system losses, radar measurements, pulse doppler and coherent techniques, detection probability and signal-to-noise ratio, side lobe clutter, synthetic arrays and pulse compression techniques. Prerequisite: EGR 322 and 421 or equivalent.
- 480-3 *Engineering Economy* Introduction to analytical methods and techniques for optimizing the economic outcome of technical and managerial decisions. Includes time value of money, annual cost, present worth, future value, capitalized cost break-even analysis, and valuation and depreciation. Prerequisite: MTH 132.



- 490-4, 491-4 *Engineering Design* Independent investigation of contemporary engineering problems under the guidance of an instructor. Topics selected to meet the needs and interests of the students. Research of professional literature and submission of an engineering report required. Senior standing required.
- 499-1 to 5 *Special Problems in Engineering* Special problems in advanced engineering topics. Consent of instructor required.

## English (ENG)

- 111-4 *Composition* Concentrating on the writing process and its applications, stressing organization and development.
- 112-4 *Composition* Expository writing, stressing language awareness and rhetorical principles.
- 190-3 *Issues and Ideas in Literature* Readings in literature dealing with a single theme or a specific problem; for example: Crisis and Confrontation in American Literature, The Images of the Hero in Literature, The Supernatural and Occult in Literature, and Sex and Censorship in Literature.
- 201-3 *Contemporary Literature* Readings in American and British fiction, poetry, and drama of the present and the recent past; for example: American Novel since 1945, Literature of the Absurd, Protest Literature, and Contemporary Poetry.
- 202-4 *The Literary Tradition* Readings in British and American literature; for example: Shakespeare, American Masterpieces, British Novel, and Readings in Biography.
- 203-4 *World Literature* Readings in world literature; for example: the Literature of Africa, the International Best Seller, and the Hero in World Myth.
- 204-4 *Afro-American Literature 1760-1877* Study of Afro-American literature, including major writers and historical backgrounds.
- 205-4 *Afro-American Literature, 1877-Present* Study of major Afro-American writers and literary movements from the end of Reconstruction (1877) to the present.

Note: All following English courses at the 200 and 300 levels are open to students who have completed the minimum prerequisite of ENG 111, 112.

- 311-4 *Introduction to Journalism* Overview of the role of the press in American society with special emphasis on print media. Topics include the press and government and the First Amendment.
- 312-4 *Basic News Writing* Introduction to writing for print media. Structure and organization of news stories. Reporting in the field required.
- 319-3 to 4 *Studies in Journalism*. In-depth studies of selected areas of journalism. Specific subtitles added with individual courses. Prerequisite varies with individual courses.
- 331-4 *Business Writing* Techniques in business writing with special attention to improving mechanical skills, reviewing forms of business writing, acquiring research techniques, and analyzing business and technical prose.

## Major Courses

Unless otherwise specified, successful completion of freshman English is the minimum prerequisite for all major courses. Bachelor of Arts degree candidates majoring in English must meet the minimum major requirements from courses in this group. For majors, ENG 250, 251 are prerequisites to enrollment in other literature courses in this group.

- 250-4, 251-4 *Introduction to the Study of Literature* Introduces English majors to independent analytical reading, basic literary concepts and techniques, and the vocabulary of literary study. Practice in elementary critical and scholarly skills through study of fiction (250) and of poetry and drama (251).
- 301-4 *Introduction to Creative Writing* Beginning course for students interested in creative writing, with special attention to foundations of the short story and poetry. Prerequisite: ENG 111, 112 or permission of instructor.
- 302-4 *Poetry Writing* Fundamentals of verse writing: practice in traditional and contemporary concepts of poetic form. Prerequisite: ENG 111, 112 or permission of instructor.
- 303-4 *Short Story Writing* Theory and practice of techniques of fiction, emphasizing reading of literary models and writing of original stories. Prerequisite: ENG 111, 112 or permission of instructor.
- 304-4 *Dramatic Writing* Theory and practice of techniques of dramatic writing, emphasizing writing of original plays. Prerequisite: ENG 111, 112 or permission of instructor.
- 309-4 *Creative Writing Workshop* For qualified students who wish to develop further their abilities in creative writing. Students work closely with the instructor on advanced projects in poetry, short story, drama, or the novel. Prerequisite: ENG 302 or 303 or 304 or permission of instructor. May be repeated for credit.
- 341-4 *Advanced Composition for Secondary Teachers* Combines study and teaching of composition with practice in writing. Emphasis on expository writing with special attention to evaluation of writing and problems of secondary school teachers.





- 342-4 *Advanced Composition for Elementary Teachers*  
Study and practice of writing with special attention to informative and creative writing taught in the elementary schools and to problems of teaching writing to elementary school students.
- 343-4 *Advanced Composition Practice* in various types of expository writing; special attention to rhetorical and stylistic considerations.
- 351-4 *Major English Writers: Chaucer to Shakespeare*  
Representative works of such major English writers of the medieval period and the sixteenth century as Chaucer, the Pearl-poet, Malory, Sidney, Spenser, Marlowe, and Shakespeare.
- 352-4 *Major English Writers: Donne to Johnson*  
Representative works of such major British writers of the seventeenth and eighteenth centuries as Donne, Jonson, Milton, Dryden, Congreve, Swift, Addison, Steele, Pope, Fielding, Gray, and Johnson.
- 353-4 *Major English Writers: Blake to Arnold*  
Representative works of such major Romantic and Victorian writers as Blake, Austen, Wordsworth, Coleridge, Keats, Shelley, Byron, Carlyle, Dickens, Tennyson, Browning, and Arnold.
- 354-4 *Major English Writers: Hopkins to Eliot*  
Representative works of such major English writers of the modern period as Hopkins, Hardy, Housman, Shaw, Conrad, Yeats, Joyce, Lawrence, Woolf, and Eliot.
- 355-4 *Major American Writers: Cooper to Whitman*  
Representative works of such major American writers before the Civil War as Cooper, Poe, Emerson, Thoreau, Hawthorne, Melville, and Whitman.
- 356-4 *Major American Writers: Dickinson to Dreiser*  
Representative works of such major American writers from the Civil War to World War I as Dickinson, Twain, James, Howells, Wharton, Crane, and Dreiser.
- 357-4 *Major American Writers: Fitzgerald to the Present*  
Representative works of such major American writers since the twenties as Fitzgerald, O'Neill, Frost, Hemingway, Faulkner, and Stevens. Also selected contemporary writers.
- 360-4 *Introduction to Linguistics* Survey of the major branches of linguistics and the history of linguistics; articulatory phonetics; phonemics and morphemics; theory of transformational grammar and techniques of rule writing; linguistic geography.
- Note: The series of "Studies" courses is intended to provide a wide range of courses approaching literature from a variety of significant viewpoints. Because a large number of courses can be offered under each "Studies" number, students should consult the department for a list and brief description of the particular courses that will be offered during a given academic year. Completion of at least three of the following courses is prerequisite to enrollment in the "Studies" courses: ENG 351, 352, 353, 354, 355, 356, and 357.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of English.
- 410-4 *Studies in English Literary History* Courses offered under this number provide intensive study of English literature from the point of view of literary history and are intended to develop an understanding of the historical approach to literature and an ability to deal critically with historical generalizations about literary periods and movements.
- 420-4 *Studies in American Literary History* Courses offered under this number provide intensive study of American literature from the point of view of literary history and are intended to develop an understanding of the historical approach to literature and an ability to deal critically with historical generalizations about literary periods and movements.
- 430-4 *Studies in Major English Writers* Courses offered under this number provide intensive study of the work of single, major English authors and are intended to develop an understanding of individual works of literature in the context of an author's life and total literary production.
- 440-4 *Studies in Major American Writers* Courses offered under this number provide intensive study of the work of single, major American authors and are intended to develop an understanding of individual works of literature in the context of an author's life and total literary production.
- 450-4 *Studies in Literary Types and Modes* Courses offered under this number provide intensive study of important literary forms such as poetry, the novel, comedy, tragedy, satire, and the epic, and are intended to develop an understanding of the formal aspects of literature as approached theoretically, analytically, and historically.
- 460-4 *Studies in Literary Themes* Courses offered under this number provide intensive study of literary works in terms of significant and recurring literary themes as they can be traced in various eras, cultures, and literary traditions.
- 470-4 *Studies in Literary Criticism* Courses offered under this number provide intensive study of the theoretical, practical, and historical aspects of literary criticism to develop an understanding of important critical questions and approaches.
- 477-1 to 6 *Workshop* Intensive study of selected special topics or problems to meet the particular needs of participating students. Specific titles announced for each workshop. May be repeated for credit subject to departmental, college, and university limits. Junior or senior standing or permission of instructor required.
- 480-4 *Studies in Linguistics* Courses offered under this number provide intensive study of the English language and linguistics and are intended to develop an understanding of the historical, comparative, and descriptive approaches to the study of language and of the nature and value of their findings. Prerequisite: ENG 360 or permission of instructor.
- 490-4 *Studies in English Education* Courses offered under this number focus on the theoretical issues and practical problems of the teaching of English at all levels to meet the needs of teachers of literature, language, and composition.



- 491-1 to 3 *Directed Reading* Supervised reading in special areas of American, English, or world literature in translation and English language and linguistics not available through course structure. Limited to seniors with a 3.0 cumulative average and a strong interest in or need for independent study. To be arranged with department chairman.
- 497-4 *Linguistics of Language Arts* Linguistic analysis of modern English with special attention to features of phonology, morphology, and syntax basic to the teaching of reading and composition. Junior or senior standing required.
- 498-2, 499-2 *English Honors Tutorial* Two-quarter sequence for senior English majors who are doing an English honors project. Limited to department-approved honors candidates.

### Environmental Studies (ENV)

- 101-3 *Our Environmental Crisis* Survey of environmental quality problems intended principally to stimulate awareness of and appreciation for the complexity of the issues that face us.
- 111-3 *Environmental Perspective* Historical perspective as it relates to the interrelationship of parameters necessary to understanding the environmental crisis.
- 112-3 *Limits to Growth* Systems approach to the study of environment, indicating present conditions of environmental problems and the projected direction if there are no major changes in society.
- 113-3 *Value System Alternatives for Society* Alternative social, economic, and political institutions: quantity or quality?
- 211-3 *Earth as an Energy System* Scientific and technical overview of ecosystems, energy, matter, pollution, and functioning of the biosphere.
- 212-3 *Environment and Man as a Social Being* Relationship between physical environment and man's behavior. Perception of space and effects of spatial arrangements on interaction patterns. Analysis of man's capabilities and limitations in design of man-environmental systems.
- 213-3 *Humanistic Perspectives of Environment* Impact of art, literature, philosophy, and religion on man's expressions towards the environment.
- 214-3 *Energy Production: Alternative Solutions* (Offered jointly with Department of Physics; see PHY 214.) Basic energy concepts and physical processes by which natural resources are converted to useful energy. Physical principles will be introduced as needed. Prerequisite: ENV 211 (recommended but not required) and MTH 102 or equivalent.
- 411-2 to 6 *Internship* Individually arranged placement with cooperating agencies in metropolitan area. Junior standing and environmental studies dual major required.
- 499-1 to 5 *Special Problems* Research or individual study designed for specific needs and abilities of student. Junior standing and environmental studies dual major required.

### Finance (FIN)

- 301-3 *Business Finance I* Introduction to basic concepts, principles, and analytical techniques of financial management. Emphasis on planning and managing assets. Topics include formulating financial objectives, organizational form, and tax environment; current asset management; short-term financial analysis forecasting and planning; and capital budgeting. Prerequisite: EC 201, 202, 203; ACC 201, 202, 203. Offered every quarter.
- 302-3 *Business Finance II* Continuation of FIN 301. Emphasis on financial structure decisions. Topics include cost of capital, financial leverage, management of short-, intermediate-, and long-term funds, dividend policy, valuation, and mergers. Prerequisite: FIN 301.
- 303-3 *Case Problems in Financial Management* Application of basic financial concepts and analytical techniques to financial decision making. Extensive use of cases. Prerequisite: FIN 301, 302. Offered in the spring.
- 305-3 *Personal Financial Planning* For nonbusiness majors concerned with financial problems encountered in managing individual affairs; family budgeting, installment buying, insurance, home ownership, and investing in securities. Graduation credit will not be granted to students also claiming credit for more than one of the following: FIN 331, 351, 352, 353, 401, or 402.
- 331-3 *Real Estate Principles and Practices* Basic orientation to the broad field of real estate. Principles, practices, and issues of real estate. The real estate market, types of real property interest, contracts, deeds, financing, home ownership, leases, investment, management, purchasing, selling, role of real estate agent, search, examination, registration of title, title closing, the valuation process, city planning, zoning, public housing, urban renewal, and state regulation. Major issues and trends involving economic, political, and social implications in the field of real estate. Successful completion of this course meets part of the licensing requirement for real estate salesmen in Ohio. Recommended for all students.
- 332-3 *Real Estate Law* Includes all areas of law commonly concerned with the typical real estate practitioner and investor-consumer. Topics include: the law of agency as applied to real estate brokers and salesmen, law of fixtures, estates (including leases), conveyancing of real estate, real estate managers, zoning, cooperatives, condominiums, and license laws of Ohio. Successful completion of this course meets part of the licensing requirement for real estate salesmen in Ohio. Prerequisite: FIN 331.
- 351-3 *Risk and Insurance* The concept of risk, its implications in decision making, and its effects on social and economic activities. Emphasizes use of insurance as a method of solving the problems of risk encountered by all segments of society. Consumer-oriented and open to all students.



- 352-3 *Life and Health Insurance* Problem of economic insecurity resulting from premature death, disability, and old age. General theory of life and health insurance, its economic and social implications, and underlying principles and reasons for various contract provisions, underwriting practices, and legal doctrines analyzed. Individual and group approaches.
- 353-3 *Property and Liability Risk Management* Analytical study of important property and casualty coverages; insurance management problems facing business firms and individuals; various methods of treating property risks such as fire, windstorm, flood, riot, theft, etc.; marine and inland marine, business interruption, corporate suretyship, personal and corporate liability, automobile, workmen's compensation, multiple line policies, and other types of coverage. Major issues and trends analyzed.
- 401-3 *Introduction to Investments* An introduction to the concepts and techniques relevant to the formulation of investment policies, objectives, and strategies for individual investors. Prerequisite: EC 301 and FIN 302.
- 402-3 *Investments Analysis and Management* This course deals with the theory and practice of security analysis and portfolio management. Opportunities for individual investigation of specific problem areas is provided. Prerequisite: EC 301 and FIN 302.
- 411-3 *Financial Institutions* Provides an overview of the operation of financial markets and institutions. Topics include: loanable funds theory, the level and structure of interest rates, and an examination of the money and capital markets. Prerequisite: FIN 301, 302, EC 301. (Includes material formerly offered in FIN 480.)
- 412-3 *Commercial Banking* Problems of commercial banking discussed from point of view of bank management; determination of proper size of asset reserves; credit analysis required for various kinds of bank loans; investment policies for commercial banks; problems of equity reserves and capital account. Prerequisite: EC 301 and FIN 302.
- 420-3 *Seminar in Financial Management* In-depth treatment of advanced problems in managerial finance. Topics include capital budgeting, capital structure theory, cost of capital, dividend policy, and long-term financial management. Prerequisite: FIN 303.
- 433-3 *Real Estate Finance* Major instruments used in financing real estate. Mortgage types, terms, and provisions. Characteristics of mortgage loans. Default and foreclosure. Land contracts, leases, sales and leaseback arrangements. The mortgage market and funds flows, determinants of supply and demand, and the effect of interest rate changes. Financial institutions in the real estate market. Government operations that affect real estate finance, government agency programs, and loan guarantee programs. Evaluation of risk in real estate lending, the effects of economic conditions, and property characteristics. Alternative methods for financing income properties including participations. Real estate investment trusts.
- Successful completion of this course meets part of the licensing requirement for real estate broker in Ohio. Prerequisite: FIN 331.
- 434-3 *Real Estate Valuation and Appraisal* The purpose of appraisal and the concept of value. Factors influencing value. Determination of economic value through capitalization of future cash flows. The net present value and internal rate of return criteria. Methodology for determining the capitalization rate, and use of compound interest tables. Area market conditions and factors that affect determination of risk. Reflection of risk in appraised values; probability estimates. Replacement cost, depreciation, and land value. Reconciliation of different value estimates. Successful completion of this course meets part of the licensing requirement for real estate broker in Ohio. Prerequisite: FIN 331.
- 462-3 *Estates, Wills, and Trusts* Problems in creation, management, and conservation of an estate. Personal and corporate trust work. Prerequisite: FIN 301, 302.
- 477-1 to 3 *Finance Studies* Independent reading and research in selected areas of finance. Senior standing in finance and department chairman's approval required.
- 481-6 *Internship in Finance* One-quarter faculty-supervised internship in finance. The student will work in a firm or public agency, participate in seminars, and submit reports for the completion of the course. Approval of Administrative Sciences and Internship Committee required.
- 490-3 *International Financial Management* Identification of those aspects of financial management altered or complicated by business transactions that transcend national borders; extension of the theory of domestic financial management in order that the added international variables can be explicitly included in the manager's decision parameters; development of analytical skills and perspective necessary to fulfilling the responsibilities of financial management in a multinational setting. Prerequisite: FIN 301, 302.

## French (FR)

- 101-4, 102-4, 103-4 *First-Year French* Study of the vocabulary and structure of the French language; practice in conversation, reading, and writing. Must be taken in sequence.
- 201-3, 202-3, 203-3 *Second-Year French* Grammar review, reading and discussion of selected texts, with practice in speaking and writing the language. Must be taken in sequence. Prerequisite: FR 103 or equivalent.

## Advanced Courses

FR 203 or equivalent is the minimum prerequisite for all 300-level French courses.

- 301-3, 302-3, 303-3 *Survey of French Literature* 301: Medieval and Renaissance periods. 302: Seventeenth and eighteenth centuries. 303: Nineteenth and twentieth centuries.



- 321-3, 322-3, 323-3 *French Composition* FR 321, 322, 323 should be taken concurrently with FR 341, 342, 343. 321: Problems of translation, English-French and French-English. 322: Writing techniques and grammar review. 323: Explication de texte. Oral and written stylistic analyses.
- 341-2, 342-2, 343-2 *Advanced French Conversation* Emphasis on the culture of the French-speaking world. Should be taken concurrently with FR 321, 322, 323.
- 351-3 *French Civilization* Study of the main currents of French civilization with special emphasis on the development of literary and cultural aspects. Given in French.
- 361-3 *French Phonetics* Pronunciation, diction and intonation. Corrective exercises and laboratory work.
- 381-1, 382-1, 383-1 *Applied Elementary French Instruction* French majors assist elementary course instructors in conducting classes. For French majors only; permission of instructor required.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of French. FR 303 and 323 or consent of instructor are minimum prerequisites for all 400-level French courses.
- 403-3 *Advanced Studies: Language / Civilization* Course content will vary. Topic chosen by instructor. Conducted in French. Prerequisite: FR 343 and 323 or consent of instructor.
- 421-3 *Literature of the Middle Ages* Les Chansons de Geste: Roland, Guillaume; le roman de Tristan; Chrétien de Troyes; le roman de Renard; theater.
- 422-3 *Villon to Chénier* Three centuries of French poetry: Villon, Marot, Du Bellay, Ronsard, d'Aubigné, La Fontaine, Boileau, Chénier.
- 423-3 *Seventeenth and Eighteenth Century Novel* Mme de La Fayette, Scarron, Fénelon, Lesage, Prévost, Diderot, Laclos.
- 441-3 *Libertines and Moralists: from Rabelais to Voltaire* Currents of scepticism and humanism in the intellectual history of France. Major authors: Rabelais, Montaigne, Cyrano de Bergerac, Saint-Evremond, La Bruyère, Bayle, Fontenelle, Diderot, Voltaire.
- 442-3 *Seventeenth- and Eighteenth-Century Theatre* Works of Corneille, Molière, Racine, Marivaux, Voltaire, Beaumarchais.
- 443-3 *The Enlightenment* History of political and social ideas in eighteenth-century France. Based principally on works of Montesquieu, Voltaire, and Rousseau.
- 450-1 to 3 *Independent Undergraduate Research*
- 451-3 *Romanticism* From Rousseau to Hugo. Includes Bernardin de Saint-Pierre, Chateaubriand, Mme de Staël, Nodier, Lamartine, Vigny, Musset, Nerval.
- 452-3 *Nineteenth-Century Novel* Stendhal, Balzac, Flaubert, Zola, France.
- 453-3 *Nineteenth-Century Poetry* Parnassians, Symbolists, and Decadents.
- 454-3 *Nineteenth-Century Short Story* Intensive study of such authors as Flaubert, Maupassant, Balzac, Nodier, Huysmans, and Merimeé.

- 462-3, 463-3, 464-3 *Twentieth-Century Literature* 462: The Novel. 463: Drama. 464: Poetry.
- 471-3, 472-3 *Introduction to Historical and Comparative Linguistics* See LI 471, 472.
- 481-3, 482-3 *Independent Reading for Advanced Students*

## Geography (GEO)

### Lower Division Courses

- All undergraduate geography courses fulfill Group One, Area Three, of the General Education requirement. Prerequisites for upper division courses must be met by students electing these courses for the General Education requirement.
- 101-3, 102-3, 103-3 *Introduction to Systematic Geography* 101: Processes and distribution of the physical elements of the earth. 102: Spatial organization of the cultural elements of man's environment. 103: Geographic significance of man's economic activities. May be taken in any order or concurrently. Credit granted for any course separately.
- 230-4 *Introduction to Climatology* Observation, measurement, and analysis of climatic elements and controls, climatic classification, and relation of climate to man's economic and social activities. Formerly listed as GEO 332.
- 242-4 *Introduction to Urban Geography* General nontechnical introduction to urban geography, focusing on major geographic concepts and principles relating to location, function, and structure of urban geography.
- 253-4 *Location Theory* Critique of theoretical aspects of the location of human activities. Development of classical location models, modern restatements of location theory, and the present state of empirical analysis. Formerly listed as GEO 352.
- 261-4 *Introduction to Remote Sensing* Basic survey of imaging remote sensor types and their operational characteristics including sensors for the visual, microwave, and infrared portions of the electromagnetic spectrum.
- 262-3 *Concepts in Cultural Geography* Examination of the principal traditions and related conceptual structures of contemporary cultural geography. Emphasis on the intellectual and methodological thrusts of ecology, diffusion, landscape, perception, region, and spatial order. Formerly listed as GEO 363.
- 271-4 *Conservation of Resources* Economic and geographic appraisal of resource conservation in the world, emphasizing an analytic approach to the solving of such contemporary problems as human population growth, environmental quality, recreation and open space, and resource management.
- 273-3 *Geography of Europe* Geography of Europe considered by subregions of the continent, focusing on the spatial relationships that influence historical, cultural, economic, and political patterns. Formerly listed as GEO 404.



275-4 *Introduction to Urban Planning* Examination of the development of city planning as a professional discipline. Consideration of the contributions to planning by the arts and sciences. Selected activities and functions of contemporary urban planning agencies are viewed from the perspective of current urban problems.

285-5 *Geographic Methodology* Examination of the nature, tools, methods, and techniques of geographic analysis. Emphasis on design, compilation, interpretation, and presentation of research materials. Required of all geography majors before completion of more than five hours of geography at the 300 level or above. Exceptions made with approval of department chairman. Formerly listed as GEO 299.

#### Upper Division Courses

302-4 *Political Geography* Geographic appraisal of factors influencing evolution, structure, resource base, function, and associations of political units.

303-3 *Space and Faith: Topics in Religion and Geography* (Offered jointly with Dept. of Religion; see REL 303.) The interrelation of religions and geographic factors in selected cultures of East and South Asia. May be repeated under different subtitles.

322-4 *Principles of Geomorphology* Distribution of world's landforms with emphasis on processes and systems functioning to shape the natural landscape. Attention to three-way interaction among landforms, other physical factors, and man.

331-4 *Introduction to Meteorology* Development and application of first principles governing the atmosphere at rest and in motion. Examination of the general circulation. Applied meteorology. Prerequisite: MTH 131. Formerly listed as GEO 232.

334-3 *Climatology for Earth Science Teachers* Interaction of weather and climate with various earth systems. Includes observation, measurement, and analysis of meteorological elements and controls. Limited to nongeography majors. Formerly listed as GEO 434.

343-4 *Concepts in Urban Geography* Systematic examination of major concepts, generalizations, and research methods relating to the distribution of settlements, their functional specializations, and their spatial interrelations.

354-3 *Geography of Manufacturing* Factors of industrial location utilizing empirical examples. Includes introduction to basic theories and techniques underlying the decision process in manufacturing locations.

356-5 *Quantitative Geography* Examination of techniques and methods employed by geographers in the analysis of spatial data and associated problems. Prerequisite: MTH 265 or permission of instructor. Formerly listed as GEO 456.

360-3 *Systematic Geography* Analysis of various geographic factors. Specific topic or field of concentration announced each time course is offered. Repeatable to a maximum of fifteen credits. Formerly listed as GEO 460.

362-4 *Remote Sensing of the Environment* An application of remote sensing techniques to environmental and resource problems. Emphasis on optimizing sensor selection to enhance image information content. Prerequisite: GEO 261 or permission of instructor.

365-5 *Cartography* Principles of map projections, their construction and use in illustrating geographic relationships. Includes methods of design, compilation, and graphic representation of data.

370-3 *Regional Geography* Physical and cultural analysis of major and minor world regions. Specific region for study announced each time course is offered. Repeatable to a maximum of fifteen credits. Formerly listed as GEO 470.

376-3 *Principles of Planning* Includes the role of planning in urban structures, and duties and responsibilities of planning commissions; process of preparing comprehensive plans; population change, the economic base, and employment change; determinants of future urban structure. Prerequisite: GEO 275 or permission of instructor. Formerly listed as GEO 417.

399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of geography.

432-4 *Intermediate Climatology* Principles of physical and dynamical climatology. Evaluation of local and regional transports and conversions of energy in the earth-atmosphere system. Prerequisite: GEO 331.

445-5 *Intermediate Cartography and Map Interpretation* Study and practice of compilation processes for the development of maps and models utilizing primary data sources. Prerequisite: GEO 365 or permission of instructor.

446-3 *Map and Photo Interpretation* Uses of map and photographic data in close and long range photogrammetry. Emphasis is given to the full spectrum of photo interpretation as applied to the controlled mapping of terrestrial and marine surfaces. Prerequisite: GEO 445 or permission of instructor.

455-3 *Geography of Transportation* Analysis of spatial aspects and structural characteristics of transport networks, the movement of goods, and their relationship to regional structures. Formerly listed as GEO 450.

458-3 *Human Perception in Resource Management* Spatial factors influencing human response and decision making in resource-use schema. How man perceives environmental elements and apprehends resources and natural hazards such as floods and droughts.

464-3 *Seminar in Cultural Geography* Development, theory, and current trends in cultural geographic studies and research. Topics covered are cultural areas and distributions, cultural origins and dispersals, cultural landscape development and ecological relationships, and environmental perception.



- 466-3 *Seminar in Urban Geography* Geographic perspective in the study of cities. Recent developments in theory, method, and techniques in urban geographic research, with emphasis on the behavioral approach. Prerequisite: GEO 343 or permission of instructor.
- 477-3 *The Land Use Plan* The process of preparing comprehensive urban plans. Methods for assessing land use conditions, housing patterns, and urban deterioration. Students are expected to participate in the development of a land use plan for a selected area. Prerequisite: GEO 376. Formerly listed as GEO 418.
- 478-3 *Urban Planning Seminar* Examination of urban plans and planning proposals. Includes future land use plans, community facilities and public utility plans, and traffic and circulation plans. Considers modern theories of planning and the planning and design of new communities. Formerly listed as GEO 426.
- 481-1 to 4, 482-1 to 4 *Special Problems in Geography* Research and problems designed for specific needs and talents of the student.

## Geology (GL)

- 101-4 *Introductory Geology I* Introduction to physical and chemical processes that have operated to produce the earth, its minerals, rocks, land forms, and economic mineral fuel deposits. Lect., lab.
- 102-4 *Introductory Geology II* Introduction to history of the earth. Physical and biological evidence recorded in the rocks used to interpret earth's history. Lect., lab. Recommended preparation: GL 101.
- 103-4 *Topical Concepts in Geology* Lecture: topics of current interest and their relationships to geology. Recitation: demonstrations, discussions, exercises pertinent to the particular topic. Lect., lab. Recommended preparation: GL 102.
- 151-4 *Physical Geology* Physical and chemical processes occurring on and within our earth. Prerequisite: two years high school science. Lect., lab., recit.
- 152-4 *Historical Geology*. History of the earth, including geologic history of all of earth's continents. Review of origin of the earth, development of the rock record, evolution of diverse life forms to produce a biological and physical history of the earth. Recommended preparation: GL 151. Lect., lab., recit.

GL 102 or 152 is recommended preparation for the following courses in addition to the indicated preparation.

- 201-4 *Water Resources* Hydrologic cycle; emphases: past, present, future problems in flood control, water pollution, water resource development. Lects.
- 203-4.5 *Minerals and Rocks* Structure, symmetry, composition of minerals. Composition, classification, origin of rocks. Lab emphasizes mineral and rock identifications. Lects., lab.

- 204-3 *Earth Resources and the Environment* Effects of exploitation of earth resources on the environment; effects of population and urban growth on vanishing assets. Location and conservation of earth resources in relation to urban expansion. Lects.
- 205-3 *Urban Geology* Study of the effect of geology on the historical development of cities. The use of geologic reasoning in city and regional planning will be stressed. For students with no geology background.
- 234-4 *Geology of the Smoky Mountains Area* Geologic development of the Smoky Mountains area will be studied through lecture, examination of literature, and direct observation in the field. Emphasis will be on the geologic processes that developed the present landscape and geologic history.

## Advanced Courses

- 301-6 *Crystallography and Optics* Introduction to symmetry of crystals and crystal optics. Determination of optical constants of crystals by polarizing microscope. Recommended preparation: GL 102, CHM 141, and at least sophomore standing.
- 302-4 *Earth Resources in World Affairs* Brief survey of geologic and geographic distribution of earth resources. Investigations and discussions into stimulus of the erratic distribution of earth resources on world history. Permission of instructor required. Lects., outside work.
- 305-4 *Mineral Deposits* Genesis, classification, and description of economic mineral deposits exclusive of petroleum deposits. Role of economic deposits in world affairs. For nongeology majors. Lects.
- 309-4 *Environmental Geology* Impact and interrelationship of geologic processes on the quality of life and the works of man. Lects., field trip.
- 311-4.5 *Introduction to Structural Geology* Concepts of stress, strain, and material behavior used to describe and explain how rocks deform. Depositional structures. Lects., lab., recit.
- 312-5.5 *Intermediate Structural Geology* Development of theory of rock behavior. Finite strain and gravity tectonics. Lect., recit., lab. Recommended preparation: GL 311.
- 320-4 *Earth Systems* Core curriculum course for geology majors dealing with the physical and chemical composition and features of the earth as a planet. Lects., lab. Recommended preparation: MTH 133.
- 321-4 *Evolution of the Earth* Core curriculum course stressing the evolution of the earth and its major features through geologic time. Lects., lab. Recommended preparation: GL 320.
- 322-4 *The Earth and Man* Core curriculum course emphasizing and relating subdisciplines and areas of geologic application. Lects., lab. Recommended preparation: GL 321.
- 365-3 *Areal Geology* The distribution, position, and surface form of geologic regions of the United States; a study of the geologic structure that underlies them and the erosional processes that have modified their surface expressions. Prerequisite: advanced standing and GL 203.



- 399-2 to 6 *Special Problems* Research problems for specific needs and talents of the student. Junior standing required.
- 400-3 *Introduction to Solid Earth Physics* The basics of seismic, gravimetric, magnetic, and heat conduction principles as used to determine the geophysical properties of the solid earth. Emphasis is on the deeper parts of the crust, the mantle, and the core. Prerequisite: MTH 132 and junior standing.
- 403-2 *Geologic Literature and Research Methods* Introduction to literature sources in the geologic sciences. Critical analysis of material in the literature. Research paper required. Lects.
- 410-6 *Mineralogy* Lecture: chemistry and physics of minerals. Lab: identification of minerals by microscopic, macroscopic, and x-ray techniques. Lects., lab. Recommended preparation: GL 301
- 412-6 *Petrology* Origin of igneous, metamorphic, and sedimentary rocks. Lab: use of thin sections for mineral identification, microscopic structures, and rock classifications. Lects., lab. Recommended preparation: GL 410.
- 413-5 *Geochemistry* Principles governing distribution of elements within the earth. Introduction to geochemical research methods. Lects., lab. Recommended preparation: CHM 141.
- 415-4 *Metamorphic Petrology* Lecture: petrographic and chemical changes that take place during metamorphism of different rock types. Lab: rock analysis using petrographic microscope. Lects., lab. Recommended preparation: GL 412.
- 416-4.5 *X-Ray Techniques* Generation, spectrum, and absorption of X rays. Diffraction of X rays on crystals. Identification of crystals using powder cell dimensions of crystals. Solid solutions. Lect., lab. Senior or graduate standing or consent of instructor recommended.
- 417-3 *Theoretical Hydrology* Introduction to mathematical and physical concepts in hydrology; equations of flow of groundwater; mathematical modeling of boundary value problems in hydrology; steady state and unsteady state behavior. Hydrologic problems to be modeled selected on basis of students background and areas of interest. Recommended preparation: MTH 333 or permission of instructor.
- 418-4.5 *Igneous Petrology* Occurrence, chemical and geological features, and genesis of selected families of volcanic rocks. Lab: microscopic study of volcanic rock suites. Lects., lab. Recommended preparation: GL 412.
- 419-4.5 *Igneous Petrology* Occurrence, chemical and geological features, and genesis of selected families of plutonic rocks. Lab: microscopic study of plutonic rock suites. Lects., lab. Recommended preparation: GL 412.
- 420-3 *Tectonics* Existence of large scale tectonic features as demonstrated by current geophysical measurements; their geologic interpretation. Lects., field trip. Consent of instructor recommended. Prerequisite: GL 311.
- 421-3 *Resource Laws and Management Principles* Fundamental principles of managing natural resources; environmental law; role of the geologist as an expert witness in policy making; watershed and air resources control; resources bidding, leasing, and taxation; resource valuation; court cases. Lects.
- 422-5 *Introduction to Geophysical Prospecting* Introduction to principles of the gravity, magnetic, seismic, electrical, and radioactive prospecting. 4 lect., 1 lab. Prerequisite: MTH 132, junior standing or consent of instructor.
- 423-4 *Seismic Exploration* Study of the theory, observation, and analysis of seismic phenomena as applied to geologic exploration. 3 lect., 1 lab. Prerequisite: GL 422 and consent of instructor.
- 424-4 *Gravity Exploration* Study of the theory, observation, and analysis of gravitational phenomena as applied to geologic exploration. Prerequisite: GL 422 and consent of instructor.
- 425-4 *Topical Concepts in Geophysics* Special topics in geophysics. Prerequisite: GL 400 or 422 and consent of instructor.
- 426-1 *Geophysics Seminar* Literature survey and student presentations on selected topics in geophysics. Repeatable. Prerequisite: GL 400 or 422.
- 428-1 *Geology Seminar* Selected geological topics discussed by students, guest speakers, and faculty.
- 429-4 *Sedimentology* Clastic rocks, their mineralogy, texture, provenance, and classification. Nonclastic carbonates and other nonclastic rocks. Depositional environments; sedimentary structures. Lects., lab. Recommended preparation: GL 203, 410, and 433.
- 430-4.5 *Paleontology I* Morphology, geologic record, and geographic distribution of major invertebrate groups characterized by significant fossil representation. Recommended: GL 102.
- 431-4.5 *Paleontology II* Morphology, geologic record, and geographic distribution of major vertebrate and plant groups characterized by significant fossil representation.
- 433-4.5 *Stratigraphy* Principles, rules, and techniques of correlation. Relationships between surface and sub-surface correlation. Lab: geologic and geophysical correlation techniques. Lects., lab.
- 434-9 *Field Geology* Geologic phenomena illustrated in the field. Introduction of mapping techniques and application of many geologic disciplines to geologic analysis. Recommended preparation: GL 311, or consent of instructor.
- 435-4. *Paleoecology* Interpretation of environments of the geologic past based on physical, chemical, and biological characteristics of the deposits. Emphasis on recent analogues of past environments. Recommended preparation: GL 430, 431, or consent of instructor.
- 436-4.5 *Biogeochemistry* Effects of organisms in geochemical cycles, concentration and dispersion of elements on the earth's surface. Individual laboratory research projects. Lects., Recommended preparation: GL 413, BIO 113 or 114.



- 439-1 *Seminar in Economic Geology* This course will allow students who have been introduced to the principles of economic geology in GL 440/640 to pursue the subject further and to study selected topics in detail. Prerequisite: GL 440.
- 440-4.5 *Economic Geology* Genesis, classification, and description of economic metal-bearing mineral deposits. Lects. lab. Recommended preparation: GL 412 or 413.
- 451-4.5 *Regional Hydrology* Survey of hydrology covering the hydrologic cycle and budget, precipitation, water losses, runoff, the drainage basin, and principles of statistical data analysis. Analysis of physical properties of water-bearing materials, groundwater movement, elementary well hydraulics, and the groundwater basin. Recommended preparation: MTH 133.
- 456-4.5 *Engineering Geology I* Principles of engineering geology; application of geologic principles to engineering works. Impact and interrelationship of geologic processes on man's construction efforts. Lects., lab.
- 457-4.5 *Engineering Geology II* Engineering geology case studies. Review of classic and unusual engineering geology projects chosen from both published and unpublished sources to illustrate principles, problems, and solutions. Lects., lab. Recommended preparation: GL 350.
- 470-4.5 *Advanced Crystallography* Symmetry of crystals, plane groups, and space groups. Single crystal diffraction methods used to study symmetry and lattice of crystals. Senior or graduate standing or consent of instructor recommended.
- 471-4.5 *Crystal Structure Analysis I* Theoretical and practical aspects of methods used to determine arrangement of atoms in crystals. Recommended preparation: GL 470 or 670 or consent of instructor.
- 472-4.5 *Crystal Structure Analysis II* Advanced crystal structure analysis. Partially disordered crystals. Recommended preparation: GL 471 or 671 or consent of instructor.
- 473-4.5 *Crystal Structure Imperfections* Imperfections in crystals; their study using microscopy and diffraction. Effect of imperfections on transformations in solids. Recommended preparation: GL 470 or 471 or consent of instructor.
- 498-3 *Regional Geology* Literature on the geology of a region will be studied in seminars during the quarter. Between terms specific areas of the region will be visited and examined in a field trip. Advanced standing required.
- 499-2 to 6 *Special Problems* Research problems for specific needs and talents of the student. Senior standing required.

## German (GER)

- 101-4, 102-4, 103-4 *First-Year German* Study of the vocabulary and structure of the German language; practice in conversation, reading, and writing. Must be taken in sequence.

- 201-3, 202-3, 203-3 *Second-Year German* Grammar review, reading and discussion of selected texts, with practice in speaking and writing the language. Must be taken in sequence. Prerequisite: GER 103 or equivalent.
- 215-3, 216-3, 217-3 *Scientific German* Intensive reading in all areas of expository and technical German. Must be taken in sequence. Prerequisite: GER 103 or equivalent.

## Advanced Courses

- 301-3, 302-3, 303-3 *Survey of German Literature* Historical survey of German literature from its beginning to the present. Prerequisite: GER 203 or equivalent. 301: Literature of the Middle Ages, Renaissance, and Reformation. 302: Enlightenment, Storm and Stress, Classicism. 303: Romanticism, Poetic Realism, Modern Period.
- 321-3, 322-3, 323-3 *German Composition* Oral and written composition in German: translations from English into German. Further grammar study. Should be taken concurrently with GER 341, 342, 343. Prerequisite: GER 203 or equivalent.
- 341-2, 342-2, 343-2 *German Conversation* Emphasis on the culture of the German-speaking world. Should be taken concurrently with GER 321, 322, 323. Prerequisite: GER 203 or equivalent.
- GER 303 and 323 or consent of instructor are the prerequisites for the following advanced courses.
- 351-3 *German Culture and Civilization* Survey of cultural influences and of political, social, economic, religious, educational, and cultural institutions.
- 361-3 *Introduction to Germanic Folklore* A survey of Germanic folklore as it relates to literature.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of German.
- 403-3 *Advanced Studies: Language/Civilization* Course content will vary. Topic chosen by instructor. Conducted in German. Prerequisite: GER 343 and 323 or consent of instructor.
- 405-3 *Early German Literature* German literature from the earliest times to the Reformation.
- 406-3 *Renaissance and Reformation* Representative German authors of the period.
- 410-3 *Baroque* Representative German authors of the period.
- 415-3, 416-3 *German Literature of the Eighteenth Century* 415: Representative authors in Rococco, Enlightenment, and Storm and Stress. 416: Representative works of Goethe and Schiller.
- 417-3 *German Romanticism* Study of the romantic movement with representative works of Schlegel, Novalis, Wackenroder, Tieck, Eichendorff, Hoffmann, and others.
- 418-3 *Goethe's Faust* Intensive study of *Faust I* and *Faust II*.



- 425–3, 426–3, 427–3 *German Literature of the Nineteenth Century* Readings and reports in nineteenth-century literature. 425: Prose. Representative works of Eichendorff, Hoffmann, Keller, Meyer, Storm, Fontane, and others. 426: Drama. Representative works of Tieck, Kleist, Grillparzer, Hebbel, Büchner, and others. 427: Poetry. Representative works of Heine, Droste-Hülshoff, Mörike, Dehmel, Liliencron, and others.
- 431–3, 432–3, 433–3 *German Literature of the Twentieth Century* Readings and reports in twentieth-century literature. 431: Prose. Representative works of Hesse, Mann, Kafka, and others. 432: Drama. Representative works of Schnitzler, Hofmannsthal, Kaiser, Toller, Brecht, and others. 433: Poetry. Representative works of Rilke, George, Trakl, Benn, and others.
- 434–3 *Thomas Mann* Studies of the writings of Thomas Mann.
- 442–3 *History of the German Language*
- 450–1 to 3 *Undergraduate Research in German*
- 471–3, 472–3 *Linguistics* See LI 471, 472.
- 481–3, 482–3 *Independent Reading for Advanced Students*

## Greek (GR)

Students who have studied Greek elsewhere should consult the Department of Classics for the appropriate course level. Placement and proficiency tests can be given.

- 101–4, 102–4, 103–4 *Beginning Greek* Essentials of the Greek language. Must be taken in sequence.
- 201–3, 202–3, 203–3 *Intermediate Greek* Review of essentials and reading for comprehension in selected authors. Must be taken in sequence. Prerequisite: GR 103 or equivalent.

## Readings Courses

The following readings courses offer a wide variety of authors and topics; they may be repeated for credit by number, although not by content. The student should consult the department for the scheduled subjects and authors. GR 203 or equivalent is prerequisite for all 300- and 400-level language courses.

- 351–3 *Readings in Greek Drama* Aeschylus, Sophocles, Euripides, Aristophanes, Menander. Study of at least one play in Greek. Topics for investigation: origin and development of tragedy, drama as a reflection of contemporary events, development of New Comedy.
- 353–3 *Readings in Greek Poetry* Greek epic and lyric poetry: epics of Homer and Hesiod, the Homeric Hymns, the early lyric poets such as Archilochus and Sappho, the Hellenistic poets. Topics for investigation: structure and technique of oral epic, the didactic tradition, lyric meters and diction, the development of pastoral poetry.
- 399–1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of Greek.

- 451–3 *Readings in Greek Philosophy* Plato, Aristotle, Epicurus, Epictetus, Marcus Aurelius. Topics for investigation: pre-Socratics and the development of philosophical vocabulary, the sophistic movement, the Cynic tradition, the development of popular philosophy.
- 453–3 *Readings in Greek History* Herodotus, Thucydides, Xenophon, Polybius, Plutarch. Topics for investigation: methods of composition, influences on historiography from the sophists and philosophers, the development of Greek historical writing, supplemental evidence from inscriptions and nonliterary sources.
- 455–3 *Readings in Greek Politics and Political Theory* Lysias, Demosthenes, Isocrates, Old Oligarch, Plato, Xenophon, Aristotle. Topics for investigation: development of political ideas and vocabulary, nonliterary sources for our knowledge of Greek civil life, influences on Roman theories and practices.
- 481–3 *Independent Reading* Restricted to seniors who are candidates for departmental honors.

## Health, Physical Education, and Recreation (HPR)

- 100–1 *Physical Education—Beginning* Instruction in the fundamental skills and knowledge of one particular activity. Competency-based approach. Check competencies posted in physical education building before enrolling. Three hours each week.
- 101–2 *Physical Education—Intermediate* Instruction through the intermediate level of skills and knowledge in one particular activity. Competency-based approach. Check competencies posted in physical education building before enrolling. Three hours each week. See quarterly class schedule for prerequisite (usually but not always HPR 100 in same sport).
- 102–3 *Physical Education—Advanced* Instruction through the advanced level of skills and knowledge in one particular activity. Competency-based approach. Check competencies posted in physical education building before enrolling. Three hours each week. See quarterly class schedule for prerequisite (usually HPR 101).
- 103–3 *Life Saving* Knowledge and skills for safety in and on the water; assisting or rescuing a person in danger of drowning. Red Cross Senior Life Saving test administered. Competency-based approach. Check competencies posted in physical education building before enrolling. Prerequisite: HPR 101 or equivalent or permission of instructor.
- 104–3 *Aquatic Supervisor* Advanced life saving skills and pool supervision techniques. WSI certification awarded when course is completed. Competency-based approach. Check competencies posted in physical education building before enrolling. Three hours each week. Prerequisite: HPR 103 or equivalent competency.



- 105-1 *Physical Education for the Disabled Student* Recreational and sport activities for the physically limited student. Course may be repeated for credit. Medical referral form and appointment with instructor required. Open to physically limited students.
- 230-5 *Personal Health* Discussions of personal health problems, including basis for mental health, maintenance of health and selection of health services, physical fitness, nutrition, quackery, industrial and home safety, and health of the preschool child.
- 233-2 *Fundamental Movement Patterns* Motor activities that will aid primary age child in developing various movement patterns. Enrollment limited to physical education (elementary) minors.
- 235-3 *General Movement Skills* Motor activities that will aid the intermediate age child in developing and refining general movement skills. Enrollment limited to physical education (elementary) minors.
- 240-2 *Problems in Health Education* Discussions of the student's problems with individualized assignments. Course content designed by the students enrolled. Participation experiences expected during enrollment in course. Prerequisites: HPR 230, BIO 301. Enrollment limited to health education minors.
- 241-3 *Introduction to Physical Education* Nature and scope of physical education from past to present, with emphasis on the present and future. Enrollment limited to physical education minors. Field experience involved.
- 242-2 *Problems in Physical Education* Discussions of student's problems with individualized assignments. Course content designed by the students enrolled. Participation experiences expected during enrollment in course. Prerequisite: HPR 241. HPR 233 may be taken concurrently.
- 250-3 *Child and Adolescent Movement Behavior* The influences of growth and development on movement learning and performance. Implications for the teaching of physical education stressed. At least sophomore standing required.
- 260-3 *First Aid* A comprehensive study of first aid techniques and procedures in emergency treatment. 2 hr. lect., 2 hrs. lab.
- 281-3 *Physical Education for the Elementary School* Curriculum and materials for elementary school physical education; emphasis on objectives, evaluation, planning, resources and facilities, and curricular trends. Required of all students preparing to teach in the elementary school.
- 330-4 *Community Health* In-depth treatment of public health problems, including agencies, diseases, food inspection, safety, and ecology.
- 340-3 *Organization and Administration of Physical Education Programs* Administrative procedures and problems connected with physical education programs, including scheduling, facilities, personnel problems, and public relations. Prerequisite: HPR 241 and at least junior standing.
- 350-4 *Kinesiology* Analysis of muscular interrelationships in basic body movements; analysis of principles of mechanics as they relate to fundamental and complex motor skills in physical education activities. 3 hrs. lect., 2 hrs. lab. Prerequisite: BIO 301.
- 351-3 *Physiology of Exercise* Physiological adjustments and changes occurring in the human organism as a result of physical activity. Physiology of muscular contraction and role of circulatory and respiratory systems in exercise. 2 hrs. lect., 2 hrs. lab. Prerequisite: BIO 301.
- 352-3 *Applied Kinesiology* Study of the applications of kinesiology to physical education. Prerequisite: HPR 350.
- 360-4 *Athletic Training I* An introductory course to the field of athletic training. 3 hrs. lect., 2 hrs. lab. Prerequisite: first aid (BIO 216, 218) or BIO 301.
- 370-1 *Baseball Umpiring* Rules and techniques of officiating. 3 hrs. attendance each week.
- 371-1 *Basketball Officiating* Rules and techniques of officiating. 3 hrs. attendance each week.
- 375-1 *Soccer Officiating* Rules and techniques of officiating. 3 hrs. attendance each week.
- 380-5 *Methods of Teaching Health* Theory and application of health instruction, including materials, curriculum development, and discussions of a variety of teaching methods. Prerequisite: HPR 240, 330, ED 119.
- 381-4 *Methods of Teaching Physical Education* Variety of teaching methods and when each can best be utilized. Prerequisite: HPR 242 and at least junior standing.
- 382-3 *Curriculum and Materials in Physical Education* Curriculum formation and content in physical education at all levels; study of supplementary materials. Prerequisite: HPR 241. Field experience involved.
- 419-5 to 15 *School Nursing Practicum* Supervised experiences in the public schools. Prerequisite: HPR 440. Restricted to those working toward certification in school health nursing.
- 440-4 *School Health Services* Health services provided by our public schools; techniques for increasing student knowledge of healthful practices. Prerequisite: HPR 230, 330.
- 441-3 *Perceptual-Motor Theories and the Curriculum in Elementary Physical Education* Analysis of the theories of perceptual-motor development; a look at current evaluation procedures for assessing perceptual-motor abilities; study of trends in elementary physical education curriculum. Junior standing required.
- 450-3 *Motor Learning* Relationship of psychology to motor skill learning; application to teaching stressed. Prerequisite: educational psychology sequence.
- 461-3 *Adapted Physical Education* School programs' developmental and conditioning activities, suited to interests, capacities, and limitations of students with physical disabilities. Relationship with school personnel, medical and auxiliary services, family and community personnel. Prerequisite: BIO 301.



- 470-3 *Baseball Theory* Science of coaching baseball. Basic fundamentals of defensive and offensive baseball; coaching and teaching techniques; strategy and administrative duties of the baseball coach. 4 hrs. attendance each week. Junior standing required.
- 471-3 *Basketball Theory* History and techniques of the game; basic teaching and coaching of fundamental skills; methods of training and care of equipment. Advanced techniques in offensive and defensive strategy; psychology of handling personnel; scouting assignments. 4 hrs. attendance each week. Junior standing required.
- 475-3 *Soccer Theory* Theory, skills, strategies, and organization principles of coaching soccer. 4 hrs. attendance each week. Junior standing required.
- 477-3 *Techniques of Teaching Swimming* Theory and techniques involved in the teaching of swimming. Swimming competency test must be passed before completion of course. 4 hrs. attendance each week.
- 480-2 *Measurement and Evaluation in Physical Education* Nature and purpose of measurement in physical education. Evaluation of available tests; practice in administration of pertinent tests. 1 hr. lect., 2 hrs. lab. Prerequisite: HPR 241, ED 464.

## History (HST)

### Lower Division Courses

- 111-3, 112-3, 113-3 *American Civilization* Interplay of forces in evolutionary development of economic, cultural, and political history. Functional and synoptic treatment of America's great historical themes. 111: Colonial foundations to 1828. 112: 1828 to 1900. 113: Since 1900.
- 120-3 *The Ancient and Medieval Worlds* Elementary survey of the tripartite Judaic, Graeco-Roman, and Christian contributions to Western civilization.
- 121-3, 122-3, 123-3 *European Civilization* Western culture from beginning of modern times to present; emphasis on art, literature, philosophy, institutions, cultural and intellectual movements, ideas, men, and forces. 121: 1300 to 1715. 122: 1715 to 1871. 123: Since 1871.
- 131-3, 132-3, 133-3 *Asian Civilization* Cultural styles, political institutions, and historical highlights of India, China, Japan, and Southeast Asia. 131: Traditional background. 132: Impact of the West. 133: Reassertion of national identity during the 20th century.
- 142-3, 143-3, 144-3 *Latin America* Evolution of Latin American nations from colonies to republics, with emphasis on intellectual, cultural, institutional, social, political, and economic history. 142: Colonial Latin America. 143: Nineteenth Century Latin America. 144: Twentieth Century Revolutions.
- 211-3 *Africa South of the Sahara* Examination and evaluation of the geographic, economic, cultural, religious, and political development of the emergent peoples of Africa south of the Sahara and their relationship to modern technological societies, particularly the West.

- 214-3, 215-3 *The Afro-American in U. S. History* Survey of black people in American society from colonial slave trade to the present. 214: African roots to the Civil War. 215: Reconstruction to the present.
- 216-3 *Introduction to Urban History: Sumeria to Suburbia* Urban history in its broadest sense from the ancient world to the present, providing historical perspective to the contemporary urban-metropolitan phenomenon and exploring "how" and "why" urban civilization came to be.
- 218-3, 219-3 *History of Ohio: Frontier to Factory* French, British, American, and Indian conflict for control of Ohio; movement to statehood; evolution of political, economic, and cultural life from rural setting to industrialization and urbanization. 218: Prehistory to 1871. 219: Since 1871.
- 224-3, 225-3 *The American Frontier* The Westward movement, emphasizing life, thought, technical adaptations, clash of cultures, conflict of empires, and impact of the West. 224: The Atlantic to the Mississippi. 225: The Mississippi to the Pacific.

### Upper Division Courses

No prerequisites except as noted in course descriptions.

- 300-3 *What Historians Do* Introduction to methods historians use to understand and interpret the past. Required of majors.
- 311-3 *History of Spain to 1598* The evolution of the Spanish nation from pre-Roman epoch to the death of Philip II and the growth of Spanish power in Europe and the western hemisphere.
- 312-3 *History of Spain Since 1598* The decline of Spain as a world power, loss of the New World colonies, and the rise of totalitarianism.
- 321-3, 322-3, 323-3 *History of England* Political, social, intellectual, and economic life. 321: Romans to Yorkists, 44 B.C. to 1485. 322: Tudors to Industrialism. 323: Industrialism and New Empire to Welfare State and loss of Empire.
- 331-3, 332-3 *History of Canada* Challenge and Survival. 331: Colony to nation, 1497-1867. 332: Problems of Canadian nationalism, 1867 to present.
- 360-3, 361-3 *War in the Western World* Evolution of warfare from the classical age to the present, emphasizing the influence of war and the military on the development of Western history. 360: To 1789. 361: 1789 to present. Offered alternate years.
- 390-3, 391-3, 392-3 *Medieval Western Europe* From the decline of the Western Roman Empire to ca. 1300. Primary emphasis on Italy, Germany, and France. 390: 285 to 814. 391: To 1100. 392: To 1300. Offered alternate years.
- 393-3 *Ancient Near East* Politics and cultures of Mesopotamia, Egypt, Palestine, Syria, Anatolia, and Iran to ca. 500 B.C. Offered alternate years.
- 394-3, 395-3 *History of Greece* Minoan civilization, archaic and Hellenic Greece, and monarchies of the Hellenistic period, with stress on cultural history. 394: To 404 B.C. 395: 404-146 B.C. Offered alternate years.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of history.



- 400-1 *Research in History* Research paper written in conjunction with a 300- or 400-level lecture course and directed by professor teaching it. Prerequisite: HST 300 and consent of instructor directing the paper. HST 400 or 401 required of majors.
- 401-3 to 9 *History Honors* Honors project, which may range from library research to field training. Prerequisite: HST 300, consent of department curriculum committee and supervising professor. HST 400 or 401 required of majors.
- 402-3 *Intra-Latin American Relations* Various policies of Latin American nations towards their neighbors, areas of tensions that have developed, and attempts at solution, from the period of the wars of independence to the present.
- 407-3, 408-3 *History of Mexico* Growth and development of Mexico from struggle for independence to its present position of leadership in Latin America. 407: 1810-1876. 408: 1876 to present. Formerly listed as HST 304, 305.
- 413-3 *Introduction to Archives and Manuscripts* Acquaints the student with the fundamental problems and techniques for managing an historical archive or manuscript collection.
- 415-3, 416-3, 417-3 *The South, Old and New* Political, social, and economic developments; emphasis on "race problem." 415: To Civil War. 416: Reconstruction to 1929. 417: 1930 to present. Prerequisite: 415, HST 111; 416, HST 112; 417, HST 113. Or consent of instructor.
- 418-3 *Modern Japan* Focuses on the phenomenal success of Japan's modernization since the imperial restoration in 1868, Japanese expansionism and imperialism, and Japan's power as an example for non-Western areas embarking on modernization.
- 421-3, 422-3, 423-3 *Tudor-Stuart-Hanoverian Britain* England through break with Roman Catholicism; religious upheavals of Civil War; Whig oligarchy. 421: 1485 to 1603. 422: 1603 to 1688. 423: 1688 to 1789.
- 425-3, 426-3 *Twentieth-Century Britain* Political, social, economic, and intellectual trends in twentieth-century Britain. 425: Passing of Victorian life, 1890 to 1918. 426: Britain between the Wars; World War II and peace; contemporary Britain.
- 427-4, 428-4, 429-4 *History of Russia* Social, economic, political, and religious history of Russia. 427: Before 1801. 428: Imperial Russia, 1801 to 1917. 429: The Soviet State.
- 430-4 *Intellectual History of Russia* Cultural and intellectual developments in Russia beginning with origins and development of the intelligentsia as a social group in the late 18th century.
- 431-3, 432-3, 433-3 *Colonial and Revolutionary America* Political, social, economic, and religious development of the colonies; struggle for independence, creation of the Constitution. 431: 17th century. 432: 1696 to 1763. 433: 1763 to 1789. Prerequisite: HST 111 or consent of instructor.
- 434-3, 435-3 *Counter-Currents of American Democracy* Conflicting forces in the development of the American nation during its formative years. 434: 1789 to 1815. 435: 1815 to 1850.
- 437-3, 438-3 *American War and Peace: Civil War and Reconstruction* Causes of and political issues during the war; fighting and financing the war; Reconstruction plans and politics; Blacks and Reconstruction; constitutional issues. 437: 1850 to 1865. 438: 1865 to 1877.
- 440-3 *America in Transition* Development of the United States from the end of Reconstruction to the end of the 19th century. Offered alternate years.
- 441-3, 442-3, 443-3 *Twentieth-Century America* Political, economic, social, and cultural forces shaping American life. 441: To 1920. 442: 1920 to 1940. 443: Since 1940. Prerequisite: HST 113 or consent of instructor. Offered alternate years.
- 444-3, 445-3, 446-3 *U.S. Thought and Society* Aspects of U.S. social, cultural, and intellectual life. 444: Colonial age. 445: 19th century. 446: Modern era. Prerequisite: 444, HST 111; 445, HST 112; 446, HST 113. Or consent of instructor. Offered alternate years.
- 447-3, 448-3 *Men, Markets, and Machinery: American Economic Life* Developments in agrarian and commercial economy; forces sponsoring economic change and growth; issues concerning "take off" of economy, mechanization, mass production, and rise of industrial economy. 447: To 1840. 448: Since 1840.
- 449-3, 450-3, 451-3 *U.S. Constitution, Law, and Society* Development of law in the United States with emphasis on history of the Supreme Court. 449: Britain to Taney. 450: Slavery to Progressivism. 451: Old Constitutionalism to the Burger Court.
- 453-3, 454-3 *Age of Renaissance and Reformation* (Taught jointly with Department of Religion; see REL 453, 454.) Decline of European feudalism and rise of the nation-state; revival of culture and arts; decline of universal church and growth of religious diversity. 453: 1350-1500. 454: 1500-1648. Offered alternate years.
- 457-3, 458-3 *Nineteenth-Century Europe* Reaction, revolutions, reforms, industrial and scientific progress; emergence of nationalism, liberalism, socialism, imperialism, industrialization, and international alliances. 457: 1815 to 1870. 458: 1870 to 1900.
- 461-3, 462-3, 463-3 *War and Peace in the Twentieth Century* Total wars and uncertain peace, Great Depression, new ideologies, Cold War between "super-powers," end of colonialism, and intellectual and cultural upheaval. 461: 1900 to 1929. 462: 1929 to 1945. 463: Since 1945.
- 464-3, 465-3, 466-3 *History of China* Unique institutions, paramount position in Asia, cultural values, and lifestyles. 464: To 1600. 465: Growing impact of West; decline during Manchu dynasty. 466: Growth of Chinese nationalism and communism during the twentieth century.
- 467-3, 468-3, 469-3 *Medieval Eastern Europe and the Near East* Events that shaped the troubled Byzantine Empire, including the rise of the Slavs and Islam. 467: To 610. 468: 610 to 1025. 469: 1025 to 1453. Offered alternate years.



- 471-3 *Religion in American Life* (Taught jointly with Department of Religion; see REL 471.) Development of religious thought and institutional life in the United States viewed in relationship to American social change. Offered alternate years.
- 474-3, 475-3 *American Urban History* Development of American cities and urban civilization from formative years to age of the metropolis. 474: To 1860. 475: Since 1860. Prerequisite: HST 216 or consent of instructor.
- 476-3 *Urban Crisis in Historical Perspective* Study of selected American urban problems of the twentieth century. Prerequisite: any twentieth-century American or urban history course or consent of instructor.
- 477-3, 478-3 *Russian-American Relations: American Revolution to the Present* Changing attitude of nineteenth-century United States toward Russia; post-1917 relations between the two "super-power" nations. 477: to 1945. 478: The Cold War.
- 481-3, 482-3, 483-3 *Ideas and Men in European History* Intellectual and cultural history from Antiquity to the Age of the Atom; changing ideas and cultural trends, their influence on mankind and his actions. 481: To 1300. 482: 1300 to 1789. 483: Since 1789.
- 484-3, 485-3, 486-3 *U.S. Diplomacy* 484: Problems with Great Britain, France, Spain; Monroe Doctrine; Manifest Destiny. 485: United States as a world power. 486: World Wars I and II. Prerequisite: HST 111, 112, 113.
- 489-2 to 4 *Ideas for Teaching History in the Secondary School* Examination and discussion of new materials, techniques, themes, and interpretations useful to teaching history in the secondary schools.
- 490-3 *Studies in History* Group study and research under faculty supervision. Permission of instructor required. May be taken as often as topics vary.
- 491-1 to 4 *Independent Readings* Faculty-directed readings in field of student's choice. Usually requires reports and conferences with instructor. Consent of instructor and department chairman required.
- 492-3, 493-3 *Nineteenth- and Twentieth-Century Africa* Economic, social, religious, and political development of Africa with emphasis on colonialism and independence. 492: 19th century. 493: 20th century. Prerequisite: 492: HST 211. 493: HST 211, or consent of instructor.
- 494-3, 495-3, 496-3 *Roman Republic and Empire* Pre-Roman cultures of Italy to the death of Constantine. 494: The Early Roman Republic—to 133 B.C.; 495: Roman Republic and Empire—to A.D. 68; 496: The High and Late Roman Empire—to 337.
- 497-3 *Century of Revolution: 1689 to 1789* Comparative view of the English Revolution of 1688, the American Revolution of 1776, and the French Revolution of 1789.
- 498-3 *Historiography* Introduction to the work of representative historians and important theories of historical interpretation. Offered in both American and European fields, one of which is required of majors. Prerequisite: eighteen quarter hours of history.

## Latin (LAT)

Students who have studied Latin elsewhere should consult the Department of Classics for the appropriate course level. Placement and proficiency tests can be given.

101-4, 102-4, 103-4 *Beginning Latin* Essentials of the Latin language. Must be taken in sequence.

201-3, 202-3, 203-3 *Intermediate Latin* Review of essentials and reading for comprehension in selected authors. Must be taken in sequence. Prerequisite: LAT 103 or equivalent.

## Readings Courses

The following readings courses offer a wide variety of authors and topics; they may be repeated for credit by number, although not by content. The student should consult the department for the scheduled subjects and authors. LAT 203 or equivalent is prerequisite for all 300- and 400-level language courses.

351-3 *Readings in Roman Drama* Plautus, Terence, Seneca. Study of at least one play in Latin. Topics for investigation: importance of Plautus and Terence for the reconstruction of Greek New Comedy, architecture of the Roman theater, history of Roman tragedy, relationship of Seneca's tragedies to his Stoic philosophy.

353-3 *Readings in Roman Epic* Virgil's *Aeneid*, Ovid's *Metamorphoses*; Lucan, Statius, Valerius Flaccus, Silius. Topics for investigation: intent and structure of the *Aeneid*, history and development of Roman epic, structure and transitional devices in the *Metamorphoses*, nature of rhetorical epic.

355-3 *Readings in Roman Poetry* Roman lyric and elegiac poetry: Virgil's *Eclogues*; Catullus, Horace, Propertius, Tibullus, Ovid. Topics for investigation: meters and style of Latin lyric, amatory tradition, influence of Hellenistic poetry.

357-3 *Readings in Roman Satire* Horace, Juvenal, Persius, Petronius, Martial. Topics for investigation: development of this peculiar Roman genre, fragments of Lucilius, satirical methods and techniques, satiric epigram, satire as a source of information about Roman private life.





- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of Latin.
- 451-3 *Readings in Roman Didactic Literature* Study of Roman philosophical and didactic literature: Lucretius, Virgil's *Georgics*, Cicero's philosophical essays, Quintilian. Topics for investigation: Roman attitudes toward Epicureanism, farming as a symbol of contemporary Roman politics, Cicero's synthesis of Greek philosophy, Quintilian and a gentleman's education.
- 453-3 *Readings in Roman History* Sallust, Livy, Tacitus, Suetonius. Topics for investigation: Roman historiographical tradition, family and political influences, evidence from nonliterary sources, influence from Greek historiography.
- 455-3 *Readings on Roman Politics and Government* Cicero's political essays and speeches; the letters of Cicero and Pliny. Topics for investigation: nature of Roman political campaigns, selections from Roman constitutional law, information from inscriptions, Augustus' *Res Gestae*.
- 481-3 *Independent Reading* Restricted to seniors who are candidates for departmental honors.

### Liberal Arts (LA)

- 101-1 *Images of Man* Multidisciplinary course composed of a series of presentations by experienced professors who present different concepts of man and man's contributions past and present from a humanistic point of view.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of liberal arts.
- 490-1 to 6 *Senior Project in Selected Studies* Intensive study or work on a selected topic designed to meet the particular needs of participating students. The characteristics of each specific project must be approved by the Selected Studies Degree Committee. May be repeated for a total of eighteen credit hours. Senior standing and permission of the degree committee required.

### Library and Communication Science (LCS)

- 110-1 *Using the Library* Presents basic approaches for using the library. Includes the card catalog, library classification, indexes, and the introduction to selected reference sources for use in research, projects, and term reports.
- 311-4 *Reference Materials and Bibliography* Important reference works, indexes, and bibliographies; practical problems in their use.
- 312-4 *Organization and Administration of School Media Centers* Administration of materials, staff, plans, and equipment; standards and certification; place of the media center in the school.
- 313-4 *Cataloging and Classification* Instruction and practice in preparation of library materials.
- 412-4 *Selection of Materials for the Elementary School* Selection of materials suitable for media-learning center of the elementary school; emphasis on nonprint items.
- 413-4 *Selection of Materials for the Secondary School* Selection of materials suitable for media-learning center of the secondary school; emphasis on nonprint items.
- 414-3 *Storytelling* Fundamental principles of the art of storytelling; techniques of adaptation and presentation. Broad foundation in materials of literature, styles of presentation, story cycles, methods of learning, practice in storytelling. Planning the story hour for the school and public library, recreational center, radio, and television.
- 416-3 *Literature for Adolescents and Young Adults* The study of the literature appropriate for adolescents and young adults. Survey, evaluations, and selections of books, techniques of reading guidance, and promotion of books. Junior standing required.
- 435-4 *Production of Instructional Materials* Nontechnical course; emphasis on production of locally made materials for classroom use, including mounting, lettering, script-writing, photography, tape recording, transparency production.
- 449-3 to 4 *Audiovisual Materials and Methods* See ED 449.
- 455-4 *Television Production* Survey of elementary problems of television production. Introduction to television techniques, participation on television productions in a wide variety of capacities. Programming utilization within the educational setting emphasized. Junior standing or permission of department required.
- 456-4 *Advanced Television Production* This course is designed to improve the skills, knowledge, and creativity used in television broadcasting. Programming and production for educational and informational broadcasts are emphasized. Prerequisite: LCS 455 or permission of instructor.
- 457-1 to 4 *Studies in Broadcasting* Intensive study of a selected area of broadcasting to meet the needs of educational broadcasting personnel, audio-visual specialists, and others interested in media and communications. Specific title announced each time the course is offered. Junior standing or permission of department required.
- 470-1 to 6 *Workshop in Library and Communication Science* Intensive study of a selected area of library and communication science to meet the needs of librarians, audio-visual personnel, and others interested in media and communications. Junior standing or permission of department required.
- 481-1 to 12 *Library Practice in the Elementary School* Supervised practice in a public school library. Formal application must be made through the Office of the Director of Laboratory Experiences in Education during the first two weeks of the quarter prior to enrollment. May be taken concurrently with practice teaching. Prerequisite: LCS 311, 312, 313, 449, and either LCS 412 or ED 420.



- 482-1 to 12 *Library Practice in the Secondary School* Supervised practice in a public school library. Formal application must be made through the Office of the Director of Laboratory Experiences in Education during the first two weeks of the quarter prior to enrollment. May be taken concurrently with practice teaching. Prerequisite: LCS 311, 312, 313, 449, and either LCS 413 or ED 421.
- 490-1 to 4 *Independent Study* Advanced individual study in an area not available through regular course offerings. Permission of department required.

### Linguistics (LI)

- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of linguistics.
- 471-3, 472-3 *Introduction to Historical and Comparative Linguistics* Principles of historical and comparative study of languages; introduction to Indo-European, Germanic, and Romance philology; linguistics and cultural history; dialect geography in Europe and the United States. Must be taken in sequence. Consent of instructor required. (Simultaneous listing as CLS 471, 472; FR 471, 472; GER 471, 472; SPN 471, 472.)

### Management (MGT)

- 200-3 *Elements of Administration and Supervision* For nonbusiness majors. Provides students in various disciplines with an understanding of administrative processes and problems while developing practical skills to increase effectiveness in administrative matters. Topics include the role and functions of the administrator, organizational dynamics, leadership, supervision, motivation, decision-making and problem-solving, group dynamics, goals, objectives, integration of interests in organizations, and social issues in administration.
- 301-3 *Principles of Management* General nature and functions of organization and management in society, embodying underlying trends. Junior standing required.
- 302-3 *Introduction to Organizational Behavior* Development of an understanding of behavior within a modern organization. Interrelationships of the individual, informal and formal groups. Prerequisite: MGT 301.
- 303-3 *Introduction to Production Systems* Survey of functions making up the production system. Includes product design, process design, production standards, work measurement, design of jobs and work methods, forecasting, scheduling, quality control, and inventory control. Prerequisite: MGT 301.
- 411-3 *Techniques of Supervision* Focus on the techniques of effective supervision as they relate to productivity and achievement of organizational and personal objectives. Prerequisite: MGT 301.
- 412-3 *Management-Union Relations* Analysis of bargaining requirements and methods, agreement development and administration, and trends in collective bargaining. Prerequisite: MGT 302.
- 415-3 *Labor-Management Relations in Government* Analytical study of the development of collective bargaining at all levels of government; topical areas include history, present environment, union structure, law, approaches to negotiation, tactics, and trends. Prerequisite: MGT 421 or permission of instructor.
- 421-3 *The Personnel Function* Analysis of the manpower system, interrelationship of policy areas such as manpower staffing, development, and utilization. Prerequisite: MGT 302.
- 422-3 *Compensation Administration* Analysis of job evaluation, job design, compensation administration, and similar topics as related to personnel objectives. Prerequisite: MGT 302.
- 423-3 *Contemporary Problems in Personnel Management* Research, analysis, and discussion of contemporary issues involving the management of personnel. Prerequisite: MGT 421 and 422.
- 431-3 *Design of Production Systems* Techniques and methods used by executives to design or select operating systems. Emphasis on use of cost and decision models for infrequent, but important, decisions concerning work-force levels, plant layout, plant and warehouse location, and project management. Prerequisite: MGT 303 and QBA 303 or permission of instructor.
- 432-3 *Production Planning and Control* Techniques and methods employed by managers to plan and to control operations. Emphasis on current practices and operating techniques used in day-to-day decision-making in production control, routing, and scheduling. Prerequisite: MGT 303 and QBA 303 or permission of instructor.
- 433-3 *Industrial and Institutional Purchasing* Lectures and case studies relating to materials management. Emphasis on purchasing, receiving, storing, and inventory control; value analysis and specialized problems in institutional procurement. Prerequisite: MGT 301.
- 434-3 *Special Topics in Management* Seminar in special topics such as systems management, research and development, quality assurance, inventory control, training and development, and arbitration. Specific topic and prerequisites published in quarterly class schedule.
- 477-1 to 3 *Special Studies in Management* Reading or research in a selected field of management. Senior standing in management and approval of department chairman required. Repeatable up to ten hours.
- 481-4 *Business Policy and Administration* Integrative course to bring all the functional areas of business to bear on the analysis and solution of business problems. Students are required to work in teams inside and outside the classroom. Should be taken in the final stage of the undergraduate program in the senior year.



## Marketing (MKT)

- 300-3 *Marketing and Society* For nonbusiness majors. To acquaint the nonbusiness student with the concept and practice of marketing in a broad social context. Examines issues of controversy and concern to the student as a consumer/citizen. Topics include advertising and pricing practices, product proliferation, safety and quality, and social responsibility of business. Students may not take both MKT 300 and 301.
- 301-3 *Marketing in the Economy* Examination of the structure and functioning of the American marketing system; emphasis on its economic and social determinants, cost, productivity, and efficiency. Prerequisite: EC 201, 202, 203.
- 302-3 *Marketing Management* Factors involved in the management of the marketing function relative to product development, promotion, pricing, physical distribution, and the determination of marketing objectives within the framework of the marketing system and available markets. Prerequisite: MKT 301.
- 303-3 *Consumer Behavior* Development of knowledge of the behavioral content of marketing in consumer, industrial, and international fields. Examination of applicable theory, research findings, and concepts that are provided by psychology, sociology, anthropology, and marketing. Stresses conceptual models of buyer behavior based upon sources of influence: individual, group, culture, environment. Prerequisite: MKT 301. Required for marketing majors.
- 336-3 *Fundamentals of Personal Selling* Nature of personal selling in the marketing environment; special emphasis on personal selling-marketing relationships, buyer motivation and behavior, selling strategy, and techniques of selling. Prerequisite: MKT 301.
- 401-3 *Sales Management* Objectives, policies, and techniques of sales force management. Special role of the sales manager in marketing, selling, personnel, and financial responsibilities and opportunities. Prerequisite: MKT 301.
- 405-3 *Price and Product Management* Concepts and techniques of sales force management. Special product components of marketing strategy, including opportunity/threat analysis, planning procedures, and organizational and social frameworks in which the price and product management decisions are made. Prerequisite: MKT 301, 302. Required for marketing majors.
- 411-3 *Credit Management* Usage of credit as a tool of marketing management. Includes the basic concept of credit, social influences of credit, production of the credit service, agencies and institutions involved in performance of credit functions, and technology of credit management. Prerequisite: MKT 301.
- 421-3 *International Marketing* Analysis of managerial and operational problems of the multinational business organization. Emphasis on the role of environmental differences in influencing marketing strategy. Prerequisite: MKT 302.
- 431-3 *Logistics in the Firm* Overview of logistics as a part of the firm's marketing program. Close attention to physical facilities, transportation, and alternative channels of distribution. Prerequisite: MKT 302.
- 441-3 *Advertising* Advertising as a communication tool in marketing management. Emphasis on decision making relative to message strategy, media selection, budgets, and on the appraisal of advertising effectiveness. Prerequisite: MKT 301. Required for marketing majors.
- 451-3 *Marketing Research* Examination of the marketing research process in both a basic and an applied sense; special attention to concepts and techniques currently employed in behavioral research. Prerequisite: MKT 303. Required for marketing majors.
- 452-3 *Analysis of Markets* Continuation of MKT 451 with emphasis on the use of marketing analysis in the decision-making process. Use of the scientific approach in relation to product, channel, price and promotional and other marketing decisions. Prerequisite: MKT 451.
- 461-3 *Principles of Retailing* Analysis of the performance of marketing functions at the retail level. Emphasis on institutional compositions, competitive factors, and management of the marketing mix as it relates to retail market segments. Prerequisite: MKT 301.
- 471-3 *Industrial Marketing* Nature, evolution, and functions of industrial marketing and wholesaling operations; market structure, pricing, promotion, governmental, economic, and ethical aspects. Prerequisite: MKT 302 or approval of department chairman.
- 477-1 to 3 *Special Studies in Marketing* Reading or research in a selected field of marketing. Senior standing and approval of department chairman required.
- 480-1 to 3 *Special Topics in Marketing* Seminar in special topics such as consumerism and social issues, nonprofit organization marketing, advanced retailing management, channels of distribution, and entrepreneurship. Specific topic and prerequisites published in quarterly class schedule. Prerequisite: varies depending on topic.
- 492-3 *Marketing Policy* Capstone course to integrate the student's work in marketing and to promote marketing problem-solving capabilities. Involves group preparation of a marketing plan. Senior standing in the College of Business and Administration and completion of majority of degree course work required. Required for marketing majors.



## Mathematics (MTH)

The middle digit of the course number indicates the area of mathematics as follows: 1-computer science, 2-business mathematics, 3-analysis, 4-mathematics education, 5-algebra, 6-statistics and probability, 7-geometry.

- 102-3 *Elementary Algebra* Programmed beginning algebra. Sets, counting numbers, integers, rational numbers, equations in two variables, polynomials, factoring, fractions, fractional and quadratic equations. Anyone taking this course will have 3 hours added to the graduation requirements. Grading will be on a pass-unsatisfactory basis.
- 127-3 *Intermediate Algebra* Algebraic expressions, radicals, exponents, absolute values, inequalities, logarithmic and exponential functions, graphs, functions. Prerequisite: MTH 102 or one year of high school algebra or a sufficiently high score on mathematics placement examination.
- 130-3 *College Algebra* Complex numbers, polynomials, systems of equations and inequalities, sequences, matrices and determinants, permutations and combinations, mathematical induction and the binomial theorem. Prerequisite: MTH 127, or a sufficiently high score on mathematics placement examination.
- 131-3 *Trigonometry* Trigonometric and inverse trigonometric functions. Prerequisite: a sufficiently high score on mathematics placement exam or MTH 130. MTH 130 and 131 may be taken concurrently.
- 132-5 *Calculus I* Introduction to analytic geometry, functions, limits, the derivative and applications, and integrals. Prerequisite: MTH 130 or a sufficiently high score on mathematics placement examination.
- 133-5 *Calculus II* Conic sections, trigonometric functions, exponential and logarithmic functions, parametric equations, polar coordinates, and methods of integration. Prerequisite: MTH 131 or a sufficiently high score on the mathematics placement examination; MTH 132.
- 134-5 *Calculus III* Applications of the integral, limits and continuity, infinite series, and indeterminate forms. Prerequisite: MTH 133. Formerly listed as MTH 231.
- 158-3 *Elementary Linear Mathematics* Equations and inequalities in one and several variables, introduction to analytic geometry, the algebra of vectors and matrices, linear independence of  $n$ -tuples, solutions of linear system in  $n$  variables. Prerequisite: MTH 130 or three or more years of college preparatory math in high school or a sufficiently high score on mathematics placement examination.
- 164-3 *Elementary Probability* Numerical descriptive methods; the axioms of probability; events; random variables; expected values; introduction to the binomial and normal distributions. Prerequisite: adequate high school preparation (MTH 127 or equivalent on mathematics placement examination).
- 165-1 *Elementary Probability Laboratory* Data-oriented problems in descriptive statistics and probability at the introductory level. Corequisite: MTH 164.
- 200-3 *Refresher Calculus I* For those who want to review calculus. This along with MTH 300 would cover the material of MTH 132, 133, 134. Prerequisite: a previous (perhaps much forgotten) knowledge of calculus or permission of instructor. Usually given in the evening. Grading on pass-unsatisfactory basis.
- 224-3 *Calculus A* Functions, rates of change, limits, derivatives of algebraic functions, and applications including maxima and minima. MTH 224 and 225 are oriented toward students in business and the social sciences. Prerequisite: MTH 130 or a sufficiently high score on mathematics placement examination and sophomore standing. Credit cannot be received for both MTH 224 and 132 or 135.
- 225-3 *Calculus B* Indefinite and definite integrals, applications, and exponential and logarithmic functions. Prerequisite: MTH 224.
- 233-5 *Differential Equations* Elementary first order equations, linear equations, linear systems, series solutions, Laplace transform, applications. Uniqueness and existence theorems for solutions. Prerequisite: MTH 134.
- 255-5 *Matrix and Vector Algebra* Scalars and vectors, vector addition, bases. Scalar product, vector product, identities. Applications to geometry. Elementary matrix algebra, systems of linear equations. Quadratic forms, diagonalization. Prerequisite: five hours of calculus.
- 256-5 *Multidimensional Calculus and Vector Functions* Differential calculus for curves: tangent vector, curvature. Scalar functions of several variables, partial differentiation, chain rule. Vector fields, gradient, divergence, and curl. Multiple integrals, change of variable in multiple integrals. Line integrals, surface integrals, Green's theorem, divergence theorem, Stoke's theorem. Prerequisite: MTH 134, 255.
- 265-3 *Elementary Statistics* Statistical Inference: point and interval estimation of the mean, the binomial parameter, hypothesis testing, the  $t$  distribution, population variance. Linear regression and correlation, least squares, chi-square and contingency tables. The analysis of variance. Examples from social, industrial, clinical, educational, and other applications. Prerequisite: MTH 164.
- 266-1 *Elementary Statistics Laboratory* Data-oriented problems in statistical inference at the elementary level. Corequisite: MTH 265.
- 280-3 *Introduction to Mathematical Proof* Topics selected by the instructor to give students experience in constructing mathematical proofs. Intended for sophomores or juniors who have just completed the calculus sequence.
- 300-3 *Refresher Calculus II* A continuation of MTH 200. Prerequisite: MTH 200. Grading on pass-unsatisfactory basis.



- 304-4 *Mathematics as a Human Activity* Shows nonscience students some of the applications and uses of mathematics. Enrollment limited to nonscience majors of at least sophomore standing with no math course beyond MTH 130.
- 310-3 *Set Theory and Boolean Algebra* Topics from set theory. Boolean algebra, logic, algorithm theory and formal languages. Junior standing required.
- 331-3 *Vector Analysis* Algebra of vectors, vector valued function, gradient, curl, divergence, line and surface integrals, integral theorems, curvilinear coordinates, applications. Prerequisite: MTH 134 and 255 or equivalent.
- 332-3 *Complex Variables* Topics discussed include power series expansion, the formula of Cauchy, residues, conformal mappings, and elementary functions in the complex domain. An applied course intended for students of science and engineering. Prerequisite: MTH 134.
- 333-3 *Partial Differential Equations and Boundary Value Problems* Partial differential equations, boundary value problems, eigenfunctions, Fourier series, applications. Prerequisite: MTH 233, 256.
- 343-4, 344-4 *Mathematical Foundations I, II* Sets, relations, functions of the whole number system, place value notation, modular numbers, permutations and combinations, development of the integers and rational numbers, fractional and basimal notations, polynomial and rational functions. 3 hrs. lect., 1 hr. rec. and lab. Must be taken in sequence. Required of elementary education majors. Prerequisite: MTH 343, none; 344, MTH 343.
- 345-4 *Geometry for Elementary School Teachers* Axioms, finite geometries, nonmetric and metric lengths, angles, area, volume, polygonal figures, elementary curves. 3 hrs. lect., 1 hr. lab. Prerequisite: MTH 344.
- 355-3 *Matrix Algebra I* Algebra of matrices, determinants, inverses, rank, linear independence; characteristic equations, roots and vectors. Prerequisite: MTH 255.
- 360-4, 361-4 *Applied Statistics I, II* Introduction to applied probability and statistics. Data handling, using electronic calculators and package computer programs. Standard parametric statistical methods among topics considered. Prerequisite: MTH 360, two courses in calculus; MTH 361, MTH 360.
- 365-3 *Survey of Design* Survey of experimental designs frequently used in applied research. Topics selected from among: analysis of covariance, Latin squares, factorial experiments, confounding, response surfaces, incomplete block designs, split plots, and combinations of experiments. Prerequisite: MTH 265 or 361 or equivalent.
- 368-4 *The Design of Sample Surveys* Introduction to all phases of survey work, including preparations to launch the survey, actual conduct of the operations, processing of data, and writing of the report. Sampling methods covered selected from: unequal probability, stratified, cluster, replacement, double, and sample random sampling. Prerequisite: two courses in statistics.
- 381-3 *Elementary Number Theory* Divisibility properties of integers, prime numbers, congruences, the Chinese remainder theorem, quadratic reciprocity law, Mobius inversion formula, Euler  $\phi$ -function, other number-theoretic functions. Prerequisite: MTH 134 or junior standing.
- 386-1 to 5 *Independent Reading in Statistics and Probability* Permission of instructor required.
- 396-1 to 5 *Topics in Statistics and Probability* Permission of instructor required.
- 423-3 to 4 *Advanced Logic* (Offered jointly with Department of Philosophy; see PHL 423.) Treats logic as an object rather than a subject. Although it contains extensions to higher order logic, its main concern will be with the use of logic and with the limitations of logical systems. Prerequisite: PHL 123, 323, or one of these together with one math course beyond calculus, or permission of instructor.
- 431-3 *Real Variables I* Functions, sequences, limits, continuity, differentiability, integration, and mean-value theorems. Prerequisite: completion of the calculus sequence. Senior standing recommended.
- 432-3 *Real Variables II* Infinite series, uniform convergence, Taylor series, improper integrals, special functions, and Fourier series. Prerequisite: MTH 431.
- 433-3 *Real Variables III* Theory of functions of several variables, vector-valued functions. Prerequisite: MTH 432.
- 434-3 *Introduction to Complex Analysis I* Complex numbers, analytic functions, Cauchy-Riemann equations, classical integral theorems, Taylor series, Laurent series, singularities. Prerequisite: MTH 256 or equivalent.
- 435-3 *Introduction to Complex Analysis II* Residues, conformal mappings, Schwarz Christoffel transformations, harmonic functions, Poisson integral formula, Dirichlet problem. Prerequisite: MTH 434.
- 436-4 *Intermediate Ordinary Differential Equations* Review of elementary ordinary differential equations: phase space; stability; linear systems, Liapunow's direct method; existence and uniqueness theorems. Prerequisite: MTH 233, 355; MTH 456 is recommended.
- 440-3 *History of Mathematics* Development of calculus from antiquity through Newton, Leibnitz. Development of classical analysis. The rise of abstraction; set theory, algebra, topology. Modern analysis. Prerequisite: MTH 134, 451, 471.
- 441-4, 442-4 *Foundations of Analysis I, II* Elementary logic, sets, whole numbers, modular systems, integers, rationals, complex extensions, real numbers, elementary functions. Prerequisite: MTH 441, MTH 280 or permission of instructor; MTH 442, MTH 441.
- 451-3, 452-3, 453-3 *Introduction to Modern Algebra I, II, III* Introduction to abstract algebraic structures, including groups, rings, integral domains, fields, and vector spaces, with special attention to matrices and linear algebra. Prerequisite: MTH 451, MTH 255 and 134; MTH 452, MTH 451; MTH 453, MTH 452.



- 456-3 *Linear Algebra with Applications* Vector spaces, linear transformations, unitary and orthogonal transformations, inner products, triangularizations, diagonalizations, quadratic forms. Applications. Prerequisite: some knowledge of matrices beyond MTH 255.
- 457-3, 458-3 *Combinatorial Theory I, II* Topics from permutations, combinatorics generating functions, recurrence relations, Polya's theory of counting, fundamental concepts of graph theory, trees, circuits, cutsets, planar and dual graphs, transport networks, matching theory. Prerequisite: 457, MTH 255 and junior standing; MTH 458, MTH 457.
- 460-4 *Applied Regression Analysis* A standard basic course in multiple linear regression with an introduction to more complicated models and computing techniques. Prerequisite: mathematical maturity equivalent to one course in calculus, two courses in statistics, and one course in matrix algebra, or permission of instructor.
- 461-3 *Probability* Probability models, density and distribution functions, expectation, marginal and conditional distributions, stochastic independence, classical models, moment generating functions, and the central limit theorem. Prerequisite: MTH 256.
- 462-3, 463-3 *Mathematical Statistics I, II* A continuation of the topics listed in MTH 461 and estimation, testing, sufficient statistics, maximum likelihood estimation, the multivariate normal distribution, and applications. Prerequisite: MTH 462, MTH 461; MTH 463, MTH 462.
- 464-3, 465-3 *Stochastic Processes I, II* Wiener and Poisson processes, differentiation and integration of stochastic processes, stationary processes, Markov processes (chains), transformations and harmonic analysis of stochastic processes. Prerequisite: MTH 464, MTH 461; MTH 465, MTH 464.
- 466-4, 467-4 *Time Series Analysis I, II* Stochastic models for discrete time series in the time-domain, moving average processes, autoregressive processes, forecasting, model identification, and model estimation. Prerequisite: MTH 461.
- 468-3 *Sampling Theory* A systematic presentation of sampling theory and basic methods of sampling selection. Simple random sampling, systematic sampling, sampling with probability proportionate to size, the use of auxiliary estimators, and applications. Prerequisite: a course in mathematical statistics.
- 471-3 *Geometry* Topics in foundations of Euclidean geometry, introduction to non-Euclidean and other geometries. Prerequisite: MTH 134, 255.
- 472-3 *Projective Geometry* Projective and affine planes and spaces. Change of coordinates. Projective transformations. Conics. Prerequisite: MTH 134, 255.
- 475-4 *Differential Geometry* Calculus on Euclidean space, Frame fields, calculus on a surface, shape operators, geometry of surfaces in Euclidean 3 space. Prerequisite: MTH 256.
- 486-1 to 5 *Independent Reading in Statistics and Probability* Permission of instructor required.

- 488-1 to 5 *Independent Reading* Permission of instructor required.
- 492-1 to 5 *Undergraduate Seminar* Permission of instructor required.
- 496-1 to 5 *Topics in Statistics and Probability* Permission of instructor required.

### Microbiology (MIC)

- 220-5 *Microbiology of the Human Environment* The biology of viruses, bacteria, fungi, protozoans, and helminths as related to their natural environments and host-parasite interaction. An introductory microbiology course for students in Environmental Health, Nursing, and patient-oriented paramedical health professions. Three lectures and two laboratories. Prerequisite: BIO 112 and CHM 131, or departmental consent.
- 426-5 *Pathogenic Microbiology* Study of micro-organisms pathogenic for man and animals; emphasis on mechanisms of infection, resistance, and laboratory diagnosis. Prerequisite: BIO 213 and consent of instructor. One lecture, one lab.
- 427-3 *General Microbiology* Study of bacteria, yeasts, molds, and viruses; emphasis on microbial diversity and the microbiology of special environments. Prerequisite: BIO 311 or consent of instructor.
- 488-1 *Independent Reading* Junior standing and department approval required.
- 499-1 *Special Problems in Microbiology* A minimum 2.2 cumulative average and consent of department required. Maximum of four hours applicable toward degree requirements.

### Modern Languages—Humanities (ML)

- 111-3, 112-3, 113-3, 114-3 *Modern Languages Humanities* Study of selected cultures according to language distinctions, with emphasis on their uniqueness within the family of nations. 111: French Culture. 112: Germanic Culture. 113: Spanish Culture. 114: Spanish-American Culture.
- 211-3, 212-3, 213-3, 214-3, 215-3 *Literature in Translation* Selected works of foreign literature studied in English translation. 211: French Literature. 212: German Literature. 213: Russian Literature. 214: Spanish Literature. 215: Spanish-American Literature.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of modern languages.

### Motion Pictures (TH)

- 131-3 *Film Analysis* Critical analysis of film as an art form; emphasis on identification and evaluation of factors that shape film art.
- 180-3 *Film Production I* Survey of elementary problems of film production. Introduction to scripting, photography, editing, and sound. Participation on small film projects from initial conception to premier presentation.



- 181–3, 182–3, 183–3 *Elementary Film Projects*  
Production of short film projects under faculty supervision. Review of basic film techniques; introduction to some advanced film production techniques. Includes writing of film treatment and shooting script, and shooting and finishing a complete film. Prerequisite: TH 180.
- 231–3 *History of the Motion Picture I* Historical development of the art of film from 19th-century scientific experiments through end of silent era. Examination of technical, social, economic, and cultural factors that have shaped film art. Prerequisite: TH 131 or sophomore standing.
- 232–3 *History of the Motion Picture II* Historical development of the art of the film from beginning of sound era to the mid-fifties. Consideration of both American and European film and reaction of films to sociocultural conditions. Prerequisite: TH 131 or sophomore standing.
- 233–3 *History of the Motion Picture III* Historical development of the art of the film from the mid-fifties to the contemporary film scene. The decline of the studio system, major film movements of the sixties, and the rise of independent feature production will be considered. Prerequisite: TH 131 or sophomore standing.
- 280–4 *Film Production II* Advanced production techniques with emphasis on shooting, editing, and mixing synchronized sound. Includes production of a longer film project. Prerequisite: TH 180 and consent of instructor.
- 281–3, 282–3, 283–3 *Intermediate Film Projects*  
Production of medium length film projects under faculty supervision. Review of lip sync film production techniques and discussion of special production problems. Includes writing of film treatment and shooting script, and shooting and finishing a medium length film. Prerequisite: TH 280.
- 331–3 *Studies in Film History* Courses offered under this title provide an intensive study of a selected area of American or European film history. Exact title announced each time course offered. Prerequisite: TH 231 or 232 or consent of instructor.
- 332–3 *Studies in Film Authorship* Courses offered under this title provide an intensive study of the work of one or more film directors or other creative personnel, such as screenwriters or performers. Exact title announced each time course offered. Prerequisite: TH 131 or consent of the instructor.
- 333–3 *Studies in Film Genre* Courses offered under this title provide an intensive study of a film genre, e.g., the Western, the musical, the gangster film. Exact title announced each time course offered. Prerequisite: TH 131 or consent of instructor.
- 385–3 *Studies in Film Production* Courses offered under this title provide an intensive study of a selected area of film production. Exact title announced each time course offered. Prerequisite: TH 180 and consent of instructor.
- 399–1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of motion pictures.

- 435–3 *Studies in Film Criticism* Intensive examination of a selected area of film criticism. Exact title announced each time course offered. Consent of instructor required.

## Music (MUS)

### Applied Music

Private instruction is offered in the fields of concentration listed below. Subject to the regulations of the college in which the student is registered, each half-hour lesson per week may carry one or two credit hours per quarter at the undergraduate level, depending upon the level of proficiency demonstrated by the student. All nonmusic majors, as well as music majors, must receive departmental approval before registration in applied music.

- 100–1, 2, or 4 *Piano*  
110–1, 2, or 4 *Voice*  
120–1, 2, or 4 *Clarinet*  
130–1, 2, or 4 *Flute*  
140–1, 2, or 4 *Trumpet*  
150–1, 2, or 4 *Trombone*  
160–1, 2, or 4 *Organ*  
170–1, 2, or 4 *French Horn*  
180–1, 2, or 4 *Violin*  
190–1, 2, or 4 *Viola*  
200–1, 2, or 4 *Cello*  
210–1, 2, or 4 *String Bass*  
220–1, 2, or 4 *Oboe*  
230–1, 2, or 4 *Bassoon*  
240–1, 2, or 4 *Saxophone*  
250–1, 2, or 4 *Baritone Horn*  
260–1, 2, or 4 *Tuba*  
270–1, 2, or 4 *Percussion*  
280–1, 2, or 4 *Harpsichord*  
290–1, 2, or 4 *Classical Guitar*

- 155–1, 156–1, 157–1 *Class Piano* Class instruction. Permission of department required. Must be taken in sequence.
- 255–1, 256–1, 257–1 *Class Piano* Class instruction. Continuation of MUS 155, 156, 157. Permission of department required. Must be taken in sequence.
- 261–2, 262–2, 263–2 *Pronunciation of Foreign Languages* For students of singing. Study of individual sounds of each language followed by intensive readings of song lyrics. Must be taken in sequence.
- 420–3 *Opera Production and Coaching* For advanced singers in the production of opera; culminating in public performance. Individual coaching for major role assignment. Consent of instructor required. Incorporates material formerly offered in MUS 320.
- 441–1, 442–1 *Pedagogy* Fundamental problems involved in studio teaching. Critical analysis of teaching materials. Observation and practice in private teaching required. Senior standing in applied music required. Must be taken in sequence.



## Ensembles

Credit is subject to the regulations of the college in which the student is enrolled. Students not majoring in music may enroll with or without credit. Enrollment open to all students in the university.

- 105-1 *University Chorus* Audition required.
- 115-1 *University Band*
- 125-1 *University Stage Band* Audition required.
- 135-1 *University Orchestra*
- 175-1 *University Women's Chorus*
- 185-1 *University Men's Glee Club*
- 195-1 *University Chamber Singers* Audition required.
- 205-1 *Chamber Music* Audition required.
- 235-1 *University Brass Choir* Audition required.

## Theory of Music

- 101-3, 102-3, 103-3 *Theory of Music* Theoretical study of music including written exercises, form and analysis, and keyboard harmony. Required of all music majors, but open to all students of the university. Corequisite: MUS 151-152-153. Must be taken in sequence.
- 116-1 *Introduction to the Theory of Music* Open to all students in the university. Remedial course for first-year music majors; does not give credit toward a degree in music.
- 151-1, 152-1, 153-1 *Sight Singing and Dictation* Corequisite: MUS 101, 102, 103. Must be taken in sequence.
- 201-3, 202-3, 203-3 *Music Theory* Continuation of MUS 101, 102, 103. Part-writing, analysis, and keyboard harmony on a more advanced level. Must be taken in sequence. Prerequisite: MUS 103, 153. Corequisite: MUS 251, 252, 253.
- 251-1, 252-1, 253-1 *Sight Singing and Dictation* Continuation of MUS 151, 152, 153. Required concurrently with MUS 201, 202, 203. Must be taken in sequence. Prerequisite: MUS 103, 153.
- 301-3, 302-3, 303-3 *Counterpoint* Must be taken in sequence. Prerequisite: MUS 203, 253.
- 351-1, 352-1, 353-1 *Advanced Sight Singing and Dictation* Must be taken in sequence. Prerequisite: MUS 203, 253.
- 401-3, 402-3, 403-3 *Form and Analysis* Harmonic and formal analysis: phrases, periods, binary and ternary forms; themes and variation, rondo, sonata-allegro forms; contrapuntal forms. Must be taken in sequence. Prerequisite: MUS 203, 253, 313.
- 421-2, 422-2, 423-2 *Orchestration* Tone quality and ranges of orchestral instruments; voice qualities and ranges of choral ensembles; written assignments in each area. Must be taken in sequence. Prerequisite: MUS 203, 253.
- 471-3, 472-3, 473-3 *Composition* Creative writing in smaller forms. Provides experience in creating original pieces in shorter forms for various media. Must be taken in sequence. Prerequisite: MUS 203, 303, 313.
- 481-1 to 6, 482-1 to 6, 483-1 to 6 *Advanced Studies in Special Subjects* Directed research, open to properly qualified upperclass, graduate, and special students. Requires department chairman's approval.

## Music History and Literature

- 121-3, 122-3, 123-3 *Survey of Musical Styles* Principal types of Western music from c. A.D. 300 to the present. Aural analysis; forms and styles. Must be taken in sequence.
- 311-3, 312-3, 313-3 *History of Music* From ancient and medieval periods through the twentieth century. Must be taken in sequence. Prerequisite: MUS 103, 123, 153.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of music.
- 451-2, 452-2, 453-2 *Piano Literature* Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through twentieth century. Junior standing with major or concentration in piano or consent of instructor required.

## Music Education

- 145-1, 146-1, 147-1 *Voice Class* Must be taken in sequence.
- 215-1, 216-1, 217-1 *String Instruments* Class instruction. Materials and pedagogy.
- 224-1, 225-1, 226-1 *Brass and Percussion Instruments* Class instruction. Materials and pedagogy.
- 227-1, 228-1, 229-1 *Woodwind Instruments* Class instruction. Materials and pedagogy.
- 323-3 *Methods in Music: School Bands and Ensembles* Administration; techniques, materials; problems; class instruction in public schools. Prerequisite: MUS 123, 203.
- 324-3 *Methods in Music: School Orchestras and Ensembles* Administration; techniques; problems, class instruction in public schools. Prerequisite: MUS 123, 203.
- 328-4 *Music in the Elementary School* Materials; techniques, organization, and administration of vocal and general music programs in the public school. Prerequisite: MUS 123, 203.
- 329-5 *Music in the Junior and Senior High School* Materials; techniques; general music program; curriculum; changing voice; choral literature. Prerequisite: MUS 123, 203, 253.
- 335-3 *Conducting (Choral)* Basic baton technique; choral score reading. Emphasis on choral literature and rehearsal techniques. Prerequisite: MUS 123, 203.
- 336-3 *Conducting (Instrumental)* Baton technique; instrumental score reading. Emphasis on instrumental literature and techniques. Prerequisite: MUS 335.
- 430-2 *Methods of Teaching Piano* Problems and procedures in teaching individuals and classes; evaluation of instructional material; observation of piano classes. Consent of instructor required.
- 480-1 to 4 *Workshops in Music* Study of selected special topics or problems in music, or special areas of music teaching. Titles to be announced for each workshop. Senior standing in music required.





### Music for Nonmajors

- 111-3 *Music Listening I* Historical survey of Western art music from the Middle Ages through the Baroque period (1750). For nonmusic majors.
- 112-3 *Music Listening II* Historical survey of Classical and Romantic period music (1750-1900). For nonmusic majors.
- 113-3 *Music Listening III* Historical survey of Western art music of the twentieth century. For nonmusic majors.
- 114-3 *Fundamentals of Music Theory* Study of basic materials, notation, and reading of music for students with little or no previous music training. Not open to music majors.
- 141-2, 142-2, 143-2 *Singing in Musical Theatre* Must be taken in sequence. Basic music, interpretation of notation. Vocal training with emphasis on musical theatre. For theatre majors only.
- 165-3 *Fundamentals of Music for the Classroom Teacher* Functional music emphasizing keyboard, recorder, and sight-singing. Elementary education majors only.
- 365-4 *Music in the First Six Grades* Methods and materials for teaching elementary general music. Elementary education majors only. Prerequisite: MUS 165.

### Nursing (NUR)

- 111-3 *The Health Care System: Its Impact on Professional Nursing* An introductory course oriented toward the role and function of the professional nurse within the health care system, as influenced by social forces. Open to all students.

All of the following courses require admission to the School of Nursing. Course levels must be taken in sequence.

- 211-4 *Scientific and Nursing Concepts and Theories* Concepts and theories from the arts, sciences, and nursing are discussed in terms of their significance to the practice of professional nursing. Included is the integration and synthesis of various theories, as well as an orientation to the program's philosophy and conceptual framework. Open to nursing majors only. Prerequisite or parallel: NUR 111.

- 311-9, 312-9, 313-9 *Nursing Process: Man and Health* Clinical nursing course focuses on the nursing process and man's ability to adapt to his environment in relation to his optimum state of health. Learning experiences include a variety of settings within and outside the health care system. Prerequisite: NUR 211.
- 411-10, 412-10, 413-10 *Man's Health Potential Within a Dynamic Society* Clinical nursing courses oriented toward man's health potential and the practice of professional nursing. Social forces which affect the health care system are discussed in relation to their impact on professional nursing. Learning experiences emphasize independent practice and interdisciplinary activities in any environment where there is a client or patient. Prerequisite: NUR 313.
- 414-3 *Nursing Elective* Special topics. May be repeated. Prerequisite: NUR 313.
- 415-3 *Independent Study* Prerequisite: NUR 313.

### Office Administration (OA)

- 201-3 *Beginning Shorthand* Development of a vocabulary in Gregg Diamond Jubilee series shorthand. Not open to students with one year of high school shorthand.
- 202-3 *Intermediate Shorthand* Continued vocabulary development in Gregg shorthand. Emphasis on dictation and ability to transcribe accurately. Prerequisite: OA 201 or one year of high school shorthand, and OA 211 or equivalent.
- 203-3 *Advanced Shorthand* Emphasis on dictation and speed building in Gregg shorthand. Introduction to transcription. Prerequisite: OA 202 or two years of high school shorthand instruction.
- 211-2 *Beginning Typewriting* A mastery of the basic skills in touch typewriting. The typing of letters, reports, short tabulations, themes, etc. Open to any student with less than one year of high school typewriting instruction, or equivalent.
- 212-3 *Intermediate Typewriting* Development of speed and accuracy with the introduction to production typewriting of letters, reports, tabulations, and manuscripts. Two laboratory hours per week required. Prerequisite: one year of high school typewriting instruction or OA 211.
- 213-3 *Advanced Typewriting* Further development of speed and accuracy with emphasis on business letters, tabulation problems, business reports, and manuscripts. Introduction to typewritten transcription from office dictation equipment. Two laboratory hours per week required. Prerequisite: OA 212.
- 301-3 *Beginning Transcription* Introduction to typewritten transcription from dictation. Prerequisite: OA 203 and OA 212.
- 302-3 *Intermediate Transcription* Continued development of typewritten transcription from dictation. Prerequisite: OA 301.
- 303-3 *Advanced Transcription* A terminal course in transcription with emphasis on the ability to use a high degree of language skill. Prerequisite: OA 302.



- 305-3 *Office Machines* An introduction to adding machines, rotary, listing, and electronic calculators, and their application to business problems. Teaching methods are also included. Enrollment limited to students in business education and office administration.
- 401-1 to 3 *Office Practicum* Selected and supervised work experience in an office. Sixty clock-hours of work for each credit. Junior or senior standing in office administration or business education required.
- 402-1 to 3 *Problems in Office Administration* Research on a topic in office administration which is of particular interest to the student and which meets the approval of the department. Research is done under the guidance and direction of a staff member. Junior or senior standing in office administration or business education required.
- 411-4 *Office Management and Administration* Modern offices and their operating problems including principles and procedures of records management. Junior or senior standing in office administration or business education required.

### Philosophy (PHL)

- 111-3, 112-3, 113-3 *Introduction to Philosophy* Classical and contemporary philosophy. No sequence requirements. 111: Origin, structure, methods, certainty, and validity of knowledge; 112: Metaphysical problems, including relationship between mind and body, freedom and determinism, and the nature of reality; 113: The nature of moral value and obligation.
- 115-3 to 4 *Inductive Logic* Introduction to the techniques of inductive and probabilistic reasoning with special emphasis on the problems encountered in attempting to justify those techniques.
- 123-3 to 4 *Deductive Logic* Introduction to the techniques of deductive logic, including truth-table analysis, the propositional calculus, and predicate logic.
- 124-3 to 4 *Social Ethics and Values* Investigation of fundamental ethical issues in our society. Includes such issues as power, law, race, war, population, ecology, violence vs. pacifism, and punishment vs. rehabilitation.
- 301-3, 302-3, 303-3 *History of Philosophy* No sequence requirements. 301: Pre-Socratic Philosophers, Plato and Aristotle; Epicureanism, Stoicism, Scepticism, Neoplatonism, and early Medieval Philosophy; 302: Medieval and Renaissance Philosophy; Descartes, Spinoza, and Leibniz. 303: Locke, Berkeley, Hume, Kant, Hegel, Schopenhauer, Nietzsche; Logical Positivism, Process Philosophy, and Existentialism.
- 305-3 to 4 *American Philosophy* Survey of American philosophy from Jonathan Edwards to John Dewey, including Transcendentalism (Emerson, Thoreau), Idealism (Royce), Pragmatism (Peirce, James), and Naturalism (Santayana, Dewey).
- 311-3 to 4 *Ethics* Critical examination of major issues and problems of contemporary philosophical ethics. Concepts of "good," "evil," "right," "wrong," and "justice." Obligations to ourselves and others; praise, blame, punishment, and pardon; meaning and purpose of life.
- 312-3 to 4 *Moral Problems* Investigation and discussion of moral issues as they arise within major areas of society. Emphasis on studies in such areas as medicine, law, family, business, and politics. May be taken more than once.
- 322-3 *Philosophical Logic* Concepts which border the philosophy of language, philosophy of mind, and ontology. Sample topics: predication and universals; naming, meaning, and necessity; negation, existence, and truth; logical and semantical paradoxes. Prerequisite: PHL 123 or permission of instructor.
- 323-3 *Symbolic Logic* Standard notations, principles of inference, formal systems, methods of proof. Focus on first-order predicate logic. Prerequisite: three credit hours of deductive logic or consent of instructor.
- 331-3 *Political Philosophy* Analysis of classical and contemporary writings in political philosophy; includes such topics as power, sovereignty, the state, and anarchy; equality, justice, law, and liberty; consent, representation, will of the people; political rights and responsibilities.
- 341-3 to 4 *Aesthetics* Study of theories concerning the nature of the work of art, aesthetic experience, the arts, and beauty.
- 351-3 to 4 *Great Scientists and Recent Philosophy: Darwin, Marx, Freud, Einstein* Examination of philosophical importance of the theories of evolution, psychoanalysis, dialectical materialism, and space-time relativity.
- 371-3 to 4 *Business Ethics* Case study and discussion of ethical issues involved in business transactions and management.
- 378-3 *Ethics and Medicine* (Offered jointly with Department of Religion; see REL 378.) Examination of ethical issues confronting society in area of medicine and health care, from perspective of philosophical and theological ethics. Examples include ethics of abortion, euthanasia, experimental medicine, and behavior control.
- 392-3 to 4 *Philosophy of Religion* (Offered jointly with the Department of Religion; see REL 392.) Critical examination of selected philosophical issues that arise from the cross-cultural studies of historic and secular religions as well as from various interdisciplinary studies of religion.
- 394-3 to 4 *Existentialism* (Offered jointly with the Department of Religion; see REL 394.) Representative writers of the Existentialist movement.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of philosophy.
- 401-3 *Major Philosophers* Introduction to the major writings of outstanding philosophers. Involves presentation and critical examination of the philosophers' views. May be taken more than once.



- 411-3 to 4 *Advanced Ethical Theories* Critical examination of major theories of value and obligation. The best theory of value and obligation; assessment and measurement of values; the role of values in deliberation and decision making, and in explanations of behavior. Prerequisite: at least one of the following: PHL 113, 124, 311, or 312.
- 415-3 *Philosophical Problems* Detailed examination of one of the outstanding philosophical problems—ancient, medieval, and/or contemporary. May be taken more than once.
- 423-3 to 4 *Advanced Logic* (Offered jointly with Department of Mathematics; see MTH 423.) Treats logic as object rather than as subject. Emphasis on use of logic and on limitations of logical systems. Prerequisite: PHL 123 and 323, or one of these together with one mathematics course beyond calculus, or consent of instructor.
- 424-3 to 4 *Mathematical Philosophy* Investigation of philosophical theories concerning the nature of mathematics, the ground of mathematical knowledge, the necessity of mathematical truth, the empirical relevance of mathematics, and the relationships between mathematical philosophy and general philosophy. Prerequisite: PHL 123 or consent of instructor.
- 425-3 to 4 *Philosophy of Language* Discussion of basic topics and issues. The limits of meaningful discourse. Aspects of meaning—literal, metaphorical, conversational; contemporary theories of meaning.
- 442-3 to 4 *Philosophy of Literature* Examination of theories concerning the subject matter, function, nature, and goals of literature.
- 465-3 to 4 *Analysis* Investigation of certain problems and attempted solutions that have occupied major contemporary Anglo-American philosophers such as Moore, Russell, Wittgenstein, Carnap, Ryle, Austin, Strawson, and Quine.
- 467-3 to 4 *Philosophy of Mind* Classical and contemporary approaches to such issues as the nature of mind, relationships of mind to body, knowledge of other minds, intentionality, perception, and agency. Prerequisite: PHL 111 or 112 or consent of instructor.
- 471-3 to 4 *Philosophy of Physical Science* Analysis of views concerning scientific explanation, the logic of theory testing, and the ontological status of theoretical entities; philosophical examination of the concepts of "space," "time," "matter," and "motion" from classical physics to contemporary relativity. Prerequisite: PHL 115 or consent of instructor.
- 472-3 to 4 *Philosophy of Social Science* Analysis of views concerning concept and theory formation in the social sciences, problems in objectivity and value, justification of *Verstehen*, mechanism vs. teleological explanations, and reductionism. Prerequisite: PHL 115 or consent of instructor.
- 481-3 to 4, 482-3 to 4, 483-3 to 4 *Independent Reading* Faculty-directed readings in philosophic literature. A written proposal by the student which has departmental approval is required prior to enrollment.

- 495-3 to 4 *Metaphysics* Investigation of classical and contemporary attempts to develop a theory of the nature of being and reality. Prerequisite: PHL 111 or 112 or consent of instructor.
- 496-3 to 4 *Epistemology* Origin, certainty, and extent of human knowledge. Prerequisite: PHL 111 or 112 or consent of instructor.

## Physics (PHY)

- 101-1.5, 102-1.5, 103-1.5 *Principles of Physics Laboratory* Introductory-level laboratory problems. Corequisite: for 101, 111; for 102, 112; for 103, 113.
- 111-3, 112-3, 113-3 *Principles of Physics* Introduction to fundamental phenomena, principles, and laws of physics. Meets minimum medical school entrance requirements in physics. Prerequisite: MTH 102 or equivalent high school preparation. Corequisite: for 111, 101; for 112, 102; for 113, 103.
- 121-4 *From Apples to Spaceships* Evolution of science and scientific world view studied by tracing development of mechanics and energy concepts from Galileo and Newton through Einstein. Application to space travel, relativity, and other topics of current interest. Lab stresses methods of scientific investigation. No prerequisite.
- 122-4 *The Nuclear Atom* Microscopic structure of matter, from the atomistic theory applied to gases and crystals to the underlying structure. Topics include: electricity—atomic glue, quantum theory and atoms, the nucleus and nuclear energy, and fundamental particles. Lab stresses relating everyday phenomena to basic physical principles. No prerequisite.
- 123-4 *Suns, Moons, and Planets* Introduction to astronomy with emphasis on the solar system. Topics include: planet earth, the solar system, stars and galaxies, cosmology, frontiers of astrophysics. Lab: astronomical observations and experiments. No prerequisite.
- 124-4 *Lights, Colors, and Sounds* Wave motion will be studied, with orientation toward examples of light and sound, such as musical sounds, noise, and colors occurring in nature. The laboratory will stress characteristics of sound and light waves and their sources.
- 150-1.5, 151-1.5, 152-1.5 *Contemporary Concepts in Physics* Modern physics; emphasis on recent developments. Topics: from astrophysics to molecular and nuclear physics. Pass-unsatisfactory grading. No prerequisite.
- 200-1 *General Physics Laboratory* Introductory physics laboratory problems in mechanics. Corequisite: PHY 240.
- 201-1 *General Physics Laboratory* Introductory physics laboratory problems in heat, sound, and mechanics. Corequisite: PHY 241.
- 202-1 *General Physics Laboratory* Introductory physics laboratory problems in electricity and magnetism. Corequisite: PHY 242.



- 209-4 *General Physics* Selected topics in mechanics, electricity, and magnetism; introduces use of calculus in interpretation of physical phenomena. Courses for which PHY 240-241-242 is prerequisite may be taken upon successful completion of PHY 111-112-113 and PHY 209. Prerequisite: PHY 113, MTH 133.
- 214-3 *Energy Production: Alternative Solutions* (Offered jointly with Department of Environmental Studies; see ENV 214.) Basic energy concepts and physical processes by which natural resources are converted to useful energy. Physical principles will be introduced as needed. Prerequisite: ENV 211 (recommended but not required) and MTH 102 or equivalent.
- 223-3 *Introduction to Stellar Astronomy* Broad survey of the universe of stars and galaxies. Fundamentals and frontiers of modern astronomy. For all with an interest in astronomy. Extends and expands PHY 123.
- 240-4 *General Physics* Introductory survey of mechanics for science and engineering students. Introduces the use of calculus in interpreting physical phenomena. Topics include vectors, kinematics, dynamics, energy, momentum, rotation, and statics. Corequisite: PHY 200 and MTH 132.
- 241-4 *General Physics* Introductory survey of thermodynamics, oscillations and waves, sound, fluids, and gravity. Uses calculus in interpreting physical phenomena. Prerequisite: PHY 240 and MTH 132; corequisite: PHY 201 and MTH 133.
- 242-4 *General Physics* Introductory survey of electricity and magnetism. Uses calculus in interpreting physical phenomena. Topics include electric field and potential, currents, D.C. circuits, magnetic fields, and Faraday's Law. Prerequisite: PHY 240 and MTH 133; corequisite: PHY 202.
- 243-2 *General Physics* Introductory survey of optics. Topics include lenses, mirrors, optical instruments, interference, diffraction, and lasers. Laboratory work is included. Prerequisite: PHY 241 or PHY 113.
- 260-4 *Introduction to Modern Physics* Elementary introduction to phenomenology and theoretical concepts of modern physics. Special theory of relativity and quantum theory. Atomic and molecular structure and spectra. X-rays and solid state physics. Nuclear structure, reactions, natural radioactivity. Instrumentation for nuclear physics research. One hour is devoted to demonstrations and recitations. Prerequisite: MTH 133 and PHY 242 or 209.
- 280-3 *Introduction to Photography* A course designed to develop an understanding of optical and photographic processes, and the techniques necessary to control this medium for a wide range of uses of photography.
- 300-3, 301-3 *Introduction to the Physics of Solids* Selected concepts in quantum physics. Crystal structure, x-ray diffraction, imperfections, metallic solutions and compounds, mechanical properties. Electronic structure of solids: metals, semiconductors, insulators. Applications: semiconductor devices, metal alloys, dielectrics, magnetism, superconductivity. Prerequisite: for 300, PHY 242, CHM 121, MTH 233, or permission of instructor; for 301, PHY 300. PHY 260 recommended but not required.
- 314-2 to 3 *Intermediate Physics Laboratory* Intermediate-level laboratory problems. Acquaints students with wide variety of experimental techniques in many areas of classical and modern physics. Repeatable. Prerequisite: completion of or concurrent enrollment in PHY 260, or permission of instructor.
- 322-4 *Applied Optics* Study of optical instruments by means of both geometrical and physical optics. Theory and application of interferometry and light detection devices. Brief introduction to lasers and holography. Four-hour laboratory session scheduled for 5 weeks. Prerequisite: MTH 255, PHY 242 or equivalent. PHY 260 recommended.
- 371-3, 372-3 *Analytical Mechanics* Intermediate problems in statics, kinematics, and dynamics; equilibrium of forces, rectilinear motion, curvilinear motion, central forces, constrained motion, energy and moments of inertia, the Lagrange method. Prerequisite: PHY 242 or 209. Corequisite: MTH 233.
- 400-3 *Introduction to Solid Earth Geophysics* (See also GL 400.) The basics of seismic, gravimetric, magnetic, and heat conduction principles as used to determine the geophysical properties of the solid earth. Emphasis is on the deeper parts of the crust, the mantle, and the core. Prerequisite: MTH 132 and junior standing.
- 420-3 *Thermal Physics I* First and second laws of thermodynamics: general thermodynamic formulas with applications to matter. Prerequisite: MTH 233 and PHY 242 or 209.
- 422-5 *Introduction to Geophysical Prospecting* (See also GL 422.) Introduction to principles of the gravity, magnetic, seismic, electrical, and radioactive prospecting. 4 lect., 1 lab. Junior standing and consent of instructor required.
- 423-4 *Seismic Exploration* (See also GL 423.) Study of the theory, observation, and analysis of seismic phenomena as applied to geologic explorations 3 lect., 1 lab. Prerequisite: PHY 422 and consent of instructor.
- 424-4 *Gravity Exploration* (See also GL 424.) Study of the theory, observation, and analysis of gravitational phenomena as applied to geologic exploration. Prerequisite: PHY 422 and consent of instructor.
- 425-4 *Topical Concepts in Geophysics* (See also GL 425.) Special topics in geophysics. Prerequisite: PHY 400 or 422 and consent of instructor.
- 426-1 *Geophysics Seminar* (See also GL 426.) Literature survey and student presentations on selected topics in geophysics. Repeatable. Prerequisite: PHY 422 or 400.



- 430-2 to 4 *Electronics* Basic theory and application of transistors and integrated circuits in present-day circuitry as found in research instrumentation. Prerequisite: PHY 242 or equivalent.
- 442-4 *Physical Optics* Interaction of light and matter, interpretation of these phenomena using the electromagnetic wave theory of radiation. Topics include emission, absorption, scattering, polarization, interference, diffraction, coherence, and holography. Prerequisite: PHY 352, MTH 333.
- 450-3, 451-3, 452-3 to 4 *Electricity and Magnetism* Fundamental laws of electricity and magnetism from viewpoint of fields. Maxwell's equations, transient and steady state currents, electric and magnetic properties of matter, electromagnetic radiation. Prerequisite: MTH 256 and PHY 242 or 209.
- 460-3, 461-3, 462-3 *Modern Physics* Detailed study of many aspects of modern physics, including relativity, quantum mechanics, atomic structure and spectra, x-rays, nuclear structure and reactions, fundamental particles. Prerequisite: PHY 372, 352, MTH 333.
- 470-3 *Selected Topics* Selected topics in physics. Repeatable. Prerequisite: PHY 372 and permission of department.
- 480-3, 481-3, 482-3 *Introduction to Theoretical Physics* Introduction to classical theoretical physics. Emphasis on mechanics, electromagnetic field theory, mathematical techniques. Prerequisite: PHY 372, 352, MTH 333, and permission of department.
- 488-1 to 3 *Independent Reading* Repeatable. Prerequisite: PHY 240-241-242 or equivalent and permission of department.
- 494-3 *Senior Laboratory* Selected problems in experimental and theoretical physics with critical analysis of results. Repeatable. Senior standing in physics required.
- 499-3 *Special Honors Research Problems* Special research in a recognized branch of physics, usually related to research carried on by the department. Critical analysis of results required. Repeatable. Senior standing in physics and permission of department required.
- 219-5 *Human Physiology II* Second half of a basic course in human physiology. Subject areas include: negative feedback regulation, metabolism, gastrointestinal, pulmonary, renal, and endocrine functions; integrative mechanisms. Two lectures, one lab. Prerequisite: PHS 218 or consent of instructor.
- 401-5 *Basic Human Physiology I* First half of a basic course in human physiology. Subject areas include: homeostasis, cell function, muscle action, nervous system integration, circulation. Two lectures, one lab and/or conference. Student recitation during conference. Prerequisite: one year of biology, one year of chemistry, one year of physics, and senior standing.
- 402-5 *Basic Human Physiology II* Second half of a basic course in human physiology. Subject areas include: negative feedback regulation, metabolism; gastrointestinal, pulmonary, renal, and endocrine functions; integrative mechanisms. Two lectures, one lab and/or conference. Prerequisite: PHS 401.

#### Additional Courses

- 481-3 *Physiological Control Mechanisms* An integrative course in physiology which emphasizes applications of control theory. Two lectures. Prerequisite: PHS 219 or 402 or consent of instructor.
- 482-2 *Physiological Control Mechanisms Laboratory* Laboratory exercises reinforcing principles described in PHS 481. Prerequisite: enrollment in or credit for PHS 481.
- 483-5 *Physiological Aspects of Exercise* Integration of physiological mechanisms is exemplified using exercise as a model. Cellular, neuromuscular, cardiovascular, and respiratory effects on human exercise performance are discussed. 2 lect., combined lab-conference. Prerequisite: PHS 219 or 402 or consent of instructor.
- 488-1 *Independent Reading in Physiology* This course enables qualified students to begin independent reading in the physiological literature. A written report is required for each registered period. A maximum of three credits. Junior standing and department approval required.
- 499-1 to 4 *Special Problems in Physiology* A specialized program which gives a senior an opportunity to explore a potential career in physiology. Studies may vary from working with instructor on an ongoing physiological research project to analysis of data obtained from completed research project. A maximum of four credits. Senior standing and consent of instructor required. One student per instructor.

### Physiology (PHS)

The Department of Physiology offers the following courses so that an undergraduate may: (1) consider a career in the discipline; (2) develop a basic background in human body functions; and (3) fulfill requirements in programs, departments, or schools offering undergraduate degrees.

#### Core Courses

- 218-5 *Human Physiology I* First half of a basic course in human physiology. Subject areas include: homeostasis, cell function, muscle action, nervous system integration, circulation. Two lectures, one lab. Prerequisite: BIO 112 and CHM 121 or consent of instructor.

### Political Science (PLS)

- 110-4 *Political Issues* Selected current domestic and international political issues; background information, analysis of importance; presentation of major alternative viewpoints; present stage of governmental action and policy on each issue; identification of information sources pertaining to each issue.



- 112-4, 113-4 *American Politics and Government* 112: The Constitution, public opinion, parties, elections, interest groups. 113: Congress, presidency, courts, bureaucracy. May be taken out of sequence.
- 122-4, 123-4 *International Politics* 122: Basic factors influencing contemporary international interaction; techniques and patterns of international behavior; 123: Intensive study of selected issues and trends, e.g. multipolarity, disarmament, peace keeping.

### Advanced Courses

Open to those who have had nine quarter hours of social science or who have permission of the instructor. Consult course descriptions for additional prerequisites.

- 201-4 *The Study of Politics* Introduction to the study of political relationships, structures, processes and systems; key issues in the content and method of political studies; a required course for all political science majors; open to nonmajors.
- 204-4 *Modern Political Ideologies* Systematic analysis of the major political ideologies of the twentieth century, with particular attention to democracy, fascism, communism, and nationalism.
- 210-4 *Introduction to Quantitative Methods of Political Science* Uses of quantitative political data with emphasis on contemporary research applications. Survey design and questionnaire construction. Analysis and interpretation of data.
- 225-4 *Metropolitics* Governments and politics of metropolitan regions; government structure and functions; interest and power relations.
- 226-4 *State Government* Survey and analysis of the structures and functions of the American states, with special attention to the problems of federal-state and state-local relations, legislative apportionment, and urban growth.
- 231-4 *Political Parties* General functions, organization, and operation of American political parties. Special emphasis on role of parties in democratic systems. Nominations, elections, campaigns, presidential politics. Recommended preparation: PLS 112, 113.
- 240-4 *Law and Society* Theories of Law; the nature and functions of the judicial process.
- 251-4 *Political Systems of Western Europe* Comparative study of the political systems of Great Britain, France, and West Germany.
- 271-4 *Current World Problems* Various views and perspectives on selected contemporary problems and trends in international politics.
- 305-4 *Comparative Marxist Theory* Critical examination of the chief theories developed by Marx, Engels, Lenin, Stalin, Mao Tse-tung, Castro, and various revisionists. Emphasis on Soviet and Chinese ideologies.
- 306-4 *The Marxist-Christian Dialogue* (Offered jointly with the Department of Religion; see REL 306.) Examination and evaluation of the Marxist-Christian dialogue. Emphasis on such categories as hope, liberation, alienation, man, love, class struggle, transcendence, power, and change. Junior or senior standing or consent of instructor required.
- 310-4 *Empirical Political Analysis* Scope and methods of empirical political research. Concepts and hypotheses. Explanation and prediction. Methodological approaches to the study of politics and political behavior. Prerequisite: PLS 210 or introductory course in statistics or permission of instructor.
- 326-4 *Government of Ohio* Organization and functions of the government of Ohio, with special attention to development, social structure, legal status, electoral processes, and fiscal problems.
- 328-4 *Political Aspects of Urban Development* Institutional and political context of planning; laws, governmental structures, and procedures; urban politics.
- 335-4 *The American Presidency* General political functions, roles, and structure of the presidential office. Limits and opportunities of presidential power; relations with Congress, courts, bureaucracy, the public, and the political party; presidential personality. Prefer that students have taken PLS 112 and 113.
- 337-4 *The Legislative Process* Policy role, political functions, internal structure, and operation of Congress. Secondary concern for state legislatures and non-American legislative bodies. Prefer that students have taken PLS 112 and 113.
- 340-4 *Constitutional Law* Cases in which provisions of the Constitution have been judicially interpreted; federal systems; separation of powers; limits on government.
- 341-4 *Civil Liberties* Cases and related materials on the Bill of Rights and the Fourteenth Amendment; emphasis on the First Amendment freedoms.
- 342-4 *The American Criminal Justice System* Survey of the American criminal justice system, concentrating on political aspects. Police, judges, attorneys, Supreme Court decisions, crime, and public opinion.
- 345-4 *Public Administration* Nature and scope of public administration; administrative law; public interest in the administrative process.
- 346-4 *Public Personnel Administration* Methods of employment, training, compensation, and employee relations in various levels of civil service; organizations of public employees.
- 347-4 *American Public Policy Analysis* The nature and classification of public policy. Emphasis on fragmentation, incrementalism, bargaining as means of policy development. Impact of citizens on public policy. Survey of public policy goals and problems of public policy evaluation.
- 354-4 *Governments of Eastern Europe* Introduction to the governments and politics of Eastern Europe, particularly since World War II. Includes current developments in Poland, Czechoslovakia, East Germany, Hungary, Rumania, Bulgaria, and Yugoslavia.
- 360-4 *Politics of the Developing Nations* Comparative analysis of various problems, particularly political, confronting developing nations in nation building and development.



- 366-4 *Politics of the Middle East* Introduction to governments and politics of the Middle East with special attention to cultural and historical background and the Arab-Israeli conflict.
- 370-4 *International Theory* Study of recent findings in international politics. Explanations of world political developments like war, alliance formation, and arms races.
- 380-4 *American Foreign Policy* Role of the United States in contemporary international politics and the relationship of the domestic political system to that role. Discussion of current problems.
- 384-4 *Africa and the Modern World* International relations of African states south of the Sahara. Emphasis on inter-African state relations and African state relations with the rest of the world, especially the major powers.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of political science.
- 401-4 *Classical and Medieval Political Thought* Critical examination of political ideas from 500 B.C. to A.D. 1500 with special attention to Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, Luther, Calvin, and Machiavelli.
- 402-4 *Political Thought: Hobbes to Mill* Critical examination of political ideas from 1600 to 1900, with special attention to Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegel, Bentham, Marx, and Mill.
- 403-4 *Twentieth Century Political Thought* Critical examination of 20th-century political theory. Emphasis on nature, methodology, evaluation, existing condition, and future of political thought.
- 407-4 *Seminar in Political Theory* Readings, research, reports, and discussion on selected theorists, topics, and problems. Junior or senior standing or permission of instructor required.
- 411-4 *Seminar in Methodology* Techniques and methods of research in political science; application to individual projects and research designs. Prerequisite: PLS 310 or equivalent level of familiarity with statistical techniques.
- 412-4 *Topics in Empirical Political Analysis* Selected topics of methodological or analytical concern in contemporary political research. May be repeated once. Prerequisite: PLS 310 or permission of instructor.
- 425-4 *Seminar in Metropolitan Studies* Intensive interdisciplinary treatment of metropolitan studies. Reading and discussion on pertinent theory, methodology, and case studies. Practical research by students. May be repeated once. Permission of instructor required.
- 427-4 *Urban Policy Analysis* Study of selected urban problems and their relationship to the political environment; explores program design and evaluation, and the use of social indicators. Students are urged to have taken PLS 210.
- 429-4 *Urban Communications Theory* Processes and institutions by which individuals and groups communicate in an urban environment. Model of an urban communication system developed by interdisciplinary systems approach.
- 430-4 *Seminar in American Politics and Government* Selected topics related to American political institutions and processes. Emphasis on readings, discussion, research. May be repeated once. Prerequisite: twelve credit hours in American government or permission of instructor.
- 433-4 *Public Opinion* Opinion formation in American politics; relationship of opinion to public policy; voting behavior in American elections; role of mass media and political interest groups in the policy process; development of political attitudes and values. Prefer students to have taken PLS 231.
- 434-4 *Political Socialization* Political attitude development. Acquisition of basic political orientations and values from childhood through adolescence and adulthood. Investigation of role of various socializing agents. Junior standing required.
- 445-4 *Comparative Public Administration* Emphasis on characteristics and roles of public bureaucracies in Western, non-Western, developing, and developed nations.
- 446-4 *Public Budgeting* Examination of the major phases of the governmental budget cycle; types of budget; budgetary reform; economic and public policy impact of government budgeting; decision-making process; legislative-executive relations in budget formation and implementation.
- 447-4 *Seminar in Public Administration* Selected national, state, and local problems; emphasis on legal scope of administrative power and on research methods used by staff agencies. Prerequisite: PLS 345 or permission of instructor.
- 449-4 *Public Organization Theory* Theory of administration and decision making of public organizations, principal schools of thought, and impact of structure, behavior, and public policy. Prerequisite: PLS 345.
- 451-4 *Comparative Government Policy* Examination of the differences in policy outcomes in relation to variations in governmental structure and political processes in West European political systems and the U.S.; policy areas examined include social welfare, taxation, civil rights, foreign policy.
- 453-4 *Political System of the Soviet Union* Analysis of the Soviet system with emphasis on development of the Communist Party.
- 460-4 *Seminar on Comparative Political Systems* Readings, research, reports, and discussion on selected topics and problems. Permission of instructor required.
- 461-4 *Political System of China: the People's Republic* Analysis of political structures and processes of Communist China; focus on dynamic factors of socio-economic and political development.
- 462-4 *Political System of Japan* Analysis of the political structures and processes of Japan; special attention to the dynamic factors of socio-economic development.



- 464-4 *Contemporary African Politics* Political processes and governmental institutions of sub-Saharan Africa; special attention to dynamics of political development and social and economic change. Comparative analysis of selected African political systems.
- 470-4 *Seminar in International Relations* Readings, research, reports, and discussion on selected topics and problems. Permission of instructor required.
- 471-4 *International Law* Study of rules governing the conduct of international politics with emphasis on their relevance to current world problems.
- 472-4 *International Organization* Analysis of developing structures and functions of the United Nations and other international organizations and concepts relating to world government.
- 486-4 *Chinese Foreign Policy* Examination of policy dynamics and structures as well as the external policies and international relations of the Peoples' Republic of China.
- 490-1 to 4 *Independent Reading* Supervised individual readings on selected topics. Arranged between student and faculty member directing the study. Junior or senior standing and permission of instructor required. May be taken twice. Does not count toward forty-eight-hour minimum.
- 491-1 to 4 *Independent Research* Supervised individual research on selected topics. Arranged between student and faculty member directing the study. Junior or senior standing and permission of instructor required. May be taken twice. Does not count toward forty-eight-hour minimum.
- 492-1 to 4 *Independent Field Experience* Supervised individual projects. May involve intern programs in local government or other special programs. Arranged between student and faculty member directing the study. Junior or senior standing and permission of instructor required. May be taken twice. Does not count toward forty-eight-hour minimum.
- 493-1 to 4 *Contemporary Problems* Advanced study in selected topics which frequently include new developments in the methodology or subject matter of the various subfields of the discipline. May be repeated for credit.
- 494-1 to 4 *Special Topics* Study of particular political problems of contemporary significance. May not follow time patterns scheduled for regular courses. May be repeated for credit. Does not count toward forty-eight-hour minimum.

## Psychology (PSY)

- 111-3 *Introductory Psychology* Introduction to basic concepts in the study of behavior; emphasis on methods of psychology, physiological considerations, motivation, sensation and perception, learning and cognition.
- 112-3 *Introductory Psychology* Introduction to basic concepts in the study of behavior; emphasis on statistics, psychological tests, development, personality, abnormal behavior, social psychology, and applied psychology.

- 200-2 to 4 *Psychological Study of Contemporary Problems* Restricted psychological problem areas and their implications for modern society and modern intellectual thought. Topics vary from section to section and quarter to quarter. Repeatable. Prerequisite: PSY 111, 112. Open to majors and nonmajors.

## Advanced Courses

PSY 111 and 112 are the minimum prerequisite for all advanced courses (300 and above).

**Courses for Nonmajors** These courses are not to be taken by psychology majors. Credit will not be given toward a major in psychology except by special petition for students transferring late from other majors.

- 301-4 *Psychology of Personality* Contemporary theories and concepts of personality and their relationship to the adjustment of individuals.
- 302-4 *Social Psychology* Behavior of individuals as it is influenced by past and/or present interactions with social factors.
- 303-4 *Psychology of Human Development* A survey of the basic phenomena of human psychological and behavioral development from conception through advanced age. Emphasis upon the processes responsible for normal and abnormal development.
- 304-4 *Industrial and Organizational Psychology* Scientific psychological principles, procedures, and methods applied to human behavior in organizations. Prerequisite: MTH 127.
- 305-4 *Abnormal Psychology* Overview of facts and theories pertaining to abnormal behavior. Topics include classification and diagnosis, causes and treatment of abnormal behavior.
- 306-4 *Engineering Psychology* (Offered jointly with the Department of Engineering.) Introduction to the study of human factors in the design and operation of machine systems.
- 307-4 *Tests and Measurements* An introduction to the construction and use of attitude scales, aptitude and ability tests in organizational settings with special emphasis on the utilization of standard tests. Prerequisite: MTH 127.

**Courses for Majors** These courses may also be elected by nonmajors who have completed the necessary prerequisites or who have received the instructor's permission.

- 311-4 *Quantitative Methods and Experimental Design I* Elementary problems of behavioral experimentation and basic methods of data collection and presentation, including frequency distributions, standard transformations, and linear correlation and regression. 3 lect., 1 lab. Prerequisite: MTH 127; corequisite: MTH 164.
- 312-4 *Quantitative Methods and Experimental Design II* Sampling procedures and control of relevant subject, sequence, and situational variables, including both randomized and matched-groups designs. Application of various tests of statistical inference to different designs. 3 lect., 1 lab. Prerequisite: PSY 311, MTH 164; corequisite: MTH 265.



- 313-4 *Quantitative Methods and Experimental Design III* Data analysis, repeated measurement and factorial designs, multiple regression, trend analysis and Bayesian statistics. 3 lect., 1 lab. Prerequisite: PSY 312, MTH 265.
- 331-4 *Theory and Research in Personality* Review of contemporary theories of personality and associated research methodology. Prerequisite: PSY 311.
- 332-4 *Advanced Theory and Research in Personality* Review of selected topics in personality. Selected personality constructs and their measurement (e.g., need for achievement, self concept), as well as situational determinants of behavior. Prerequisite: PSY 312, 331.
- 333-4 *Personality Research Methods* Laboratory experience in research techniques related to experimental personality. Problems of design with students expected to develop and implement a research proposal. Lecture and lab. Prerequisite: PSY 313, 332.
- 341-4 *Developmental Psychology* Survey of theory, research, and issues in the study of development of children and the young of other species. Prerequisite: PSY 311.
- 342-4 *Advanced Developmental Psychology* Development of learning and cognition in children covered in depth. Prerequisite: PSY 312, 341.
- 343-4 *Developmental Psychology Methods* Laboratory and field experience with research techniques used in various subject matter areas in developmental psychology. Lecture and lab. Prerequisite: PSY 313, 342.
- 351-4 *Experimental Social Psychology* Survey of current theories and experimental findings regarding the determinants of social behavior. Prerequisite: PSY 311.
- 352-4 *Advanced Experimental Social Psychology* Detailed examination of selected areas of current research in social psychology. Prerequisite: PSY 312, 351.
- 353-4 *Social Psychology Methods* Laboratory course in methods and problems involved in research in social psychology. Lecture and lab. Prerequisite: PSY 313, 352.
- 361-4 *Learning and Motivation* Introduction to experimental findings and contemporary theories of conditioning, learning, and motivation. Prerequisite: PSY 311.
- 362-4 *Advanced Learning and Motivation* Continued study of conditioning, learning, and motivation. Prerequisite: PSY 312, 361.
- 363-4 *Learning and Motivation Methods* Problems and methods of research in conditioning, learning, and motivation. Lecture and lab. Prerequisite: PSY 313, 362.
- 371-4 *Perception* Physiology and psychology of the phenomena of sensation and perception. Prerequisite: PSY 311.
- 372-4 *Advanced Perception* Advanced topics in perception; special emphasis on modern controversial issues and theories. Prerequisite: PSY 312, 371.
- 373-4 *Perception Methods* Laboratory experience and research techniques in various areas of perception. Lecture and lab. Prerequisite: PSY 313, 372.
- 391-4 *Physiological Psychology* Physiological mechanisms of behavior. Special emphasis on motivational systems and learning. Prerequisite: PSY 311. No prerequisite for biology upperclassmen.
- 392-4 *Advanced Physiological Psychology* Physiological mechanisms of behavior. Special emphasis on motor and sensory systems. Prerequisite: PSY 312, 391.
- 393-4 *Physiological Psychology Methods* Laboratory exercises in neuropsychology. Lecture and lab. Prerequisite: PSY 313, 392.
- 432-4 *Practicum in Applied Psychology* Work under supervision in an applied psychological setting consistent with individual student's interests (mental health agency, industrial or organizational setting, etc.). Advanced standing in psychology and permission of instructor required.
- 433-4 *Psychology of Exceptional Development* Psychological aspects of exceptional development across the whole lifespan, including gifted, retarded, physically handicapped and emotionally disturbed children and psychological aspects of aging. Prerequisite: PSY 341 or equivalent and consent of instructor.
- 435-4 *Advanced Abnormal Psychology* Theories and research relating to causes, symptoms, and influences of abnormal behavior. Prerequisite: PSY 331 or advanced standing and permission of instructor.
- 436-4 *Behavior Modification: Method and Theory* A basic survey of the principles of conditioning as they relate to problems in human adjustment. The general principles of the psychology of learning are emphasized but they are illustrated with cases of interest to a wide variety of helping professionals; e.g., psychologists, educators, social workers, nurses, and speech therapists. Prerequisite: PSY 435 or 305 or 361 or consent of instructor.
- 437-4 *Behavior Modification* Applications of empirically derived psychological principles to the modification of a wide variety of human behaviors. Major but not exclusive emphasis on theories of learning. Children's behavior in classroom and at home, application to behavior of adults in institutions, clinics, and everyday activities. Prerequisite: PSY 331, 361, or advanced standing and permission of instructor.
- 439-4 *Theory and Research in Clinical Psychology* Overview of contemporary clinical approaches, research techniques, and empirical data. Prerequisite: PSY 331, 435, or advanced standing and permission of instructor.
- 443-4 *Psychometrics* Emphasis on measurement theory and its applications, including concepts of reliability, validity, discrimination, and prediction. Prerequisite: PSY 313, 331, or advanced standing and permission of instructor.



- 444-4 *Advanced Industrial Psychology*. Theories and research findings in selected topics in industrial psychology. Prerequisite: PSY 313 or advanced standing and permission of instructor.
- 455-4 *Psycholinguistics* Survey of experimental findings in animal communication and human language; special emphasis on their implications for current theories of language. Prerequisite: PSY 313 or advanced standing and permission of instructor.
- 465-4 *Information Processing* Applications of communication theory in psychology. Acquisition, storage, manipulation, and retrieval of information. Prerequisite: PSY 313 or advanced standing and permission of instructor.
- 478-4 *Animal Behavior* (See also BIO 478.) Physiology, phylogeny, and ontogeny of behavior. Lecture and lab. Prerequisite: BIO 111, 112, 113, 302; or PSY 111, 112, 313; or permission of instructor.
- 481-4 *History of Psychology* Major trends in the development of psychology from its beginnings to the modern period. Advanced standing or permission of instructor required.
- 482-4 *Theories and Systems in Psychology* Comprehensive treatment of the historical antecedents for selected theories and systems in psychology. Prerequisite: PSY 111, 112. Limited to junior and senior students.
- 488-1 to 4 *Seminar in Special Topics* Variable content. Specific topics will be announced each time the course is offered. Advanced standing in psychology or a related field and permission of instructor required.
- 489-2 *Honors Seminar* Variable content; primarily derived from current honors thesis research. Literature surveys, experimental designs, and special analytical problems presented and discussed by students and faculty. May be repeated once. Acceptance into psychology honors program required.
- 498-1 to 3 *Independent Research* Original problems for investigation. Permission of instructor required.
- 499-1 to 3 *Honors Research Project* Original problems for investigation leading to a psychology department honors thesis. Each honors student must complete at least three credits of PSY 499 (nine credits maximum). Acceptance into psychology honors program and permission of honors adviser required.
- 302-3 *Introduction to Statistical Inference* Emphasizes setting standards as aids in decision making. Techniques covered: inferences concerning means; standard deviations; proportions; analysis of variance; nonparametric tests; linear regression; and correlation. Systematic presentation of price and quality indexes; seasonal trend and cycle analysis. Prerequisite: QBA 201.
- 303-3, 304-3 *Introduction to Operations Research I and II* Introduces the student to mathematical methods of modern quantitative analysis. Topics: linear programming, inventory analysis, queuing theory, simulation, and decision theory. Prerequisite: QBA 302.
- 320-3 *Data Processing Application* Use of stored programs and data processing techniques applied to accounting, production, finance, marketing, economics, management, and other social systems. Prerequisite: QBA 303, CS 141.
- 321-3 *Management Operating Systems* Instructional experience provided through analysis and design of management operating systems. Visits to local firms currently utilizing management operating systems to complement and integrate classroom instruction. Prerequisite: QBA 320.
- 430-3 *Quantitative Methods for Business Decisions I* Simple random sampling, stratified random sampling, simple cluster sampling, and multistaged cluster sampling discussed as to theory, procedure, and business application. Experimental designs for orderly collection of data and for use with the F ratio in the test of hypotheses explored. Linear bivariate and multivariate regression and correlation analyses described with associated models and computer applications. Prerequisite: QBA 302.
- 431-3 *Quantitative Methods for Business Decisions II* Topics include: discriminant analysis, factor analysis, time series analysis, statistical quality control, nonparametric statistics. Emphasis on application of statistical analysis to business problems. Prerequisite: QBA 430.
- 440-3 *Applications of Operations Research I* To strengthen student's ability to formulate problems in mathematical terms and to solve resulting model using analytic techniques. Advanced applications of linear programming. Introduction to and applications of integer, heuristic, and dynamic programming. Prerequisite: QBA 303.
- 441-3 *Applications of Operations Research II* To strengthen student's ability to formulate problems in mathematical terms and to solve resulting model using analytic techniques. Stochastic programming, inventory models, and queuing theory covered. Prerequisite: QBA 304.
- 452-3 *Systems Simulation in Business and Economics* Introduction to simulation techniques as applied to business and economic systems. Topics include basic concepts, applications, and technical problems associated with use of systems simulation. Design and operation of computer models emphasized. Prerequisite: CS 142.
- 477-1 to 4 *Special Studies in Quantitative Business Analysis* Registration only with consent of instructor.

### **Quantitative Business Analysis (QBA)**

- 201-3 *Introduction to Statistical Analysis* Statistical methods used in analysis of business problems. Theory and application of frequency distributions; measures of location; variation and further descriptions. Introduction to probability; expectations; theoretical probability distributions; sampling and sampling distribution. Prerequisite: MTH 130 and 158.



- 481-6 *Internship in Quantitative Business Analysis* One-quarter faculty supervised internship in quantitative business analysis. The student will work in a firm or public agency, participate in seminars, and submit reports for completion of the course. Approval of Administrative Sciences and Finance Internship Committee required.
- 491-3 *Senior Seminar in Quantitative Business Analysis* Acquaints the student with current and future trends in automation and research techniques. Open only to seniors in quantitative business analysis or by permission of the instructor.

## Rehabilitation (RHB)

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- 270-3 *Introduction to Rehabilitation* Survey course in philosophy of rehabilitation. History and development of rehabilitation and related professions. Requires two hours per week of field studies.
- 371-3 *Occupational Information for the Physically Disabled* Sources of occupational information, limitations imposed by physical disabilities, attitudinal barriers, vocational theories, job-seeking skills and job modification to the successful occupational selection, job development and placement of clients will be studied. Prerequisite: RHB 270.
- 372-3 *The Rehabilitation Worker* Individual needs of the disabled and disadvantaged as they relate to the responsibility of society and the community. Prerequisite: ED 270 or permission of instructor.
- 373-3 *Medical Aspects of Rehabilitation I* Introduction to medical terminology and system disorders that usually have continued and long-standing residual effects and commonly require rehabilitation intervention. Prerequisite: ED 270.
- 374-3 *Medical Aspects of Rehabilitation II* Examination of the treatment and rehabilitation of those physical disabilities that impose chronic limitations on activity. Consideration of the social and vocational adjustments that must be made by the individual. Prerequisite: ED 373.
- 375-3 *Rehabilitation of the Deaf I* Introduction to social, vocational, and adjustment problems of the deaf. Manual communication technique for professionals preparing to work in rehabilitation or other programs for the deaf. Off-campus field experiences required.
- 376-3 *Rehabilitation of the Deaf II* Introduction to social, vocational, and adjustment problems of the deaf. Manual communication technique for professionals preparing to work in rehabilitation or other programs for the deaf. Off-campus field experiences required. Prerequisite: ED 375.
- 472-4 *Rehabilitation Seminar* Problems and programs of special interest in rehabilitation. For advanced rehabilitation education majors.

- 473-12 *Rehabilitation Practicum* An integrative experience for the rehabilitation education student. Field work of eight clock hours per week in a rehabilitation agency over three consecutive quarters for four credit hours per quarter. May be completed in one-quarter block with special permission. Graded on a pass-unsatisfactory basis.
- 474-3 *Rehabilitation of the Emotionally Disturbed* Utilization of techniques of rehabilitation in the restoration of the emotionally disturbed, the mentally retarded, and those with character disorders evidenced by drug abuse, alcoholism, or a history of social deviance. Prerequisite: ED 374.
- 475-3 *Rehabilitation of the Disadvantaged* Utilization of rehabilitation knowledge in the effective solution to the individual problems of those who are characterized as chronic welfare recipients or hard-core unemployed. Prerequisite: ED 474.
- 476-4 *Behavioral Assessment in Rehabilitation* This course will assist the student in developing knowledge and skill essential to the interpretation and use of diagnostic information. Work evaluation reports, general aptitude test batteries and psychological test reports will be examined. Prerequisite: RHB 270, 374, PSY 307.

## Religion (REL)

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- 110-3 *Approaches to Religion* Introduction to possible ways of studying religion and the various ways in which people experience the religious dimension of existence. Examples from various cultures and times are considered.
- 111-3 *Eastern Religions* General introduction to the major religious traditions of South Asia and East Asia: Hinduism, Buddhism, Confucianism, Taoism, and Shinto. (Replaces REL 220.)
- 112-3 *Western Religions* General introduction to the major religious traditions of Judaism, Christianity, Islam, and other selected religious traditions. (Replaces REL 221.)
- 200-3 *Literature and Religion of Ancient Israel (Old Testament)* Introduction to the literature, history, and religion of Ancient Israel.
- 201-3 *Post-Biblical Judaism* Introduction to the literature and religion in Jewish sects from the Exile (c. 500 B.C.E.) to the Mishnah of Judah the Prince (200 C.E.), including the Dead Sea Scrolls. (Offered alternate years.)
- 202-3 *Literature and Religion of the New Testament* Introduction to the literature, history, and religion of early Christianity.
- 203-3 *Biblical Studies* Investigation and discussion of specific areas in Biblical studies: for example, Hebrew prophets, Jesus in the Gospels, Paul's letters, or a Biblical book or theme. May be taken more than once under different subtitles.
- 270-3 *Approaches to Religious Ethics* Examination of various religious ethical systems from diverse cultural situations.
- 271-3 *Eastern Religious Ethics* Introduction to the religious foundations of personal and social ethical traditions in selected Asian religions.



- 272-3 *Western Religious Ethics* Introduction to the religious foundations of selected personal and social ethical traditions in Judaism, Christianity, and Islam.
- 290-1 to 3 *Current Problems* Investigation and discussion of a single current problem in the field of religion. Topics selected each quarter by the department. May be taken more than once under different subtitles.
- 300-3 *Technology and Society* (Taught jointly with Department of Engineering; see EGR 300). Important developments in engineering and technology; their interrelations with society and human values as viewed in historical and in contemporary perspective. Open to juniors and seniors in all colleges.
- 303-3 *Space and Faith: Topics in Religion and Geography* Offered jointly with Department of Geography. The interrelation of religious and geographical factors in selected cultures of East and South Asia. May be repeated under different subtitles.
- 306-4 *The Marxist-Christian Dialogue* (Offered jointly with the Department of Political Science; see PLS 306.) Examination and evaluation of the Marxist-Christian dialogue. Emphasis on such categories as hope, liberation, alienation, man, love, class struggle, transcendence, power, and change. Junior or senior standing or consent of instructor required.
- 309-3 *Christianity* An examination of the structures of religious experience which have shaped the development of Christianity in history. Institutional and ritual forms will be investigated as systems of meaning against the backdrop of the general history of religions.
- 310-3 *Western Religious Thought: Ancient* Survey of intellectual development in major Western religions. Selected readings in important thinkers and in comprehensive secondary works.
- 311-3 *Western Religious Thought: Medieval* Survey of intellectual development in major Western religions. Selected readings in important thinkers and in comprehensive secondary works.
- 312-3 *Western Religious Thought: Modern* Survey of intellectual development in major Western religions. Selected readings in important thinkers and in comprehensive secondary works.
- 313-3 *Western Religious Thought: Contemporary* Survey of intellectual development in major Western religions. Selected readings in important thinkers and in comprehensive secondary works.
- 316-3 *Judaism: Faith and People* Examination of Judaism as a religious faith and people with special reference to formative historical, social, ethnic, and cultural factors.
- 317-3 *The Development of Jewish Thought* Formation of Jewish thought after the close of the biblical period traced from the Talmudic age through Philo and representative medieval thinkers down to the molders of contemporary Jewish philosophy. Offered alternate years.
- 330-3 *Topics in American Religion* Examination of selected topics in American religion to investigate its basic religious structures and to explore the relationship of religious phenomena to their cultural context. May be taken more than once under different subtitles.
- 341-3 *Islam* Study of the origin and development of Islam, including contemporary issues and problems. Offered on an irregular schedule.
- 342-3 *Hinduism* Study of the origin and development of Hinduism and its impact upon various aspects of Indian society and culture from ancient times to the present. Offered alternate years.
- 343-3 *Buddhism and Asian Culture* Study of Theravada Buddhism and Mahayana Buddhism in various Asian countries as expressed in art, philosophy, social thought, and folk tradition. Offered alternate years.
- 348-3 *Contemporary Eastern Religious Thought* Study of major schools and selected figures in contemporary eastern religious thought. Offered alternate years.
- 360-3 *Primitive Religions* (Offered jointly with Department of Anthropology; see ATH 346.) Anthropological approach to the meaning and function of religion in social life and the nature of the thought or belief systems that gave rise to different forms of religious life; emphasis on primitive and peasant societies. Prerequisite: introductory courses in religion and anthropology and permission of instructor.
- 361-3 *Sociology of Religion* (Offered jointly with Department of Sociology; see SOC 361.) General treatment of religion, examining the influence of religious ideas and institutions on other social institutions and influence of society upon religion. Prerequisite: introductory courses in religion and sociology.
- 370-3 *Studies in Ethics* A special topics course for intensified study of the ethical dimensions of a particular religious tradition or for concentrated study in theoretical or practical ethical problems. Topics to be announced with each offering. May be taken more than once under different subtitles.
- 378-3 *Ethics and Medicine* (Offered jointly with the Department of Philosophy; see PHL 378.) Examination of ethical issues confronting society in areas of medicine and health care, from perspective of philosophical and theological ethics. Examples include ethics of abortion, euthanasia, experimental medicine, and behavior control.
- 392-3 *Philosophy of Religion*. (Offered jointly with Department of Philosophy; see PHL 392.) Critical examination of selected philosophical issues that arise from the cross-cultural studies of historic and secular religions as well as from various interdisciplinary studies of religion. Junior or senior standing or consent of instructor required. Offered alternate years.
- 393-3 *Varieties of Secular Religions* Critical examination of contemporary secular faiths such as agnosticism, naturalistic humanism, Marxist atheism, and existentialist nihilism. Offered alternate years.



- 394-3 to 4 *Existentialism* (Offered jointly with Department of Philosophy; see PHL 394.) Representative writers of the existentialist movement. Junior standing or permission of instructor required.
- 399-1 to 4 *Studies in Selected Subjects* Courses of variable content dealing with problems, approaches, and topics in the field of religion.
- 400-3 *Seminar in Religion* Topics chosen by the department. Consent of instructor required. May be taken more than once under different subtitle.
- 410-4 *The Religious Quest in Contemporary Literature* (Taught jointly with Department of English; see ENG 460.) Examination of the explicit and implicit religious and ethical positions in the works of selected contemporary authors. Consent of instructor required.
- 417-3 *Evolution* (Taught jointly with Department of Biological Sciences; see BIO 417). Introduction to the biological, philosophical, theological, and ethical aspects of evolution. Consent of instructor required.
- 419-3 *Ethics in an Industrial Society: The Responsibility of Business in Society* (Offered jointly with Department of Administrative Sciences and Finance; see ADM 695.) Ethical responsibilities of business in light of political, moral, social, and religious considerations. Emphasis on analysis and evaluation of the changing framework of responsibilities facing both business organizations and their leaders.
- 421-3 *Contemporary Western Religious Thought* Study of major schools and selected figures in contemporary western religious thought. Consent of instructor required. Offered alternate years.
- 429-3 *Foundations for Religion Studies* Introduction to various methods utilized in religion studies and an application of these methods to concrete data in order to establish a foundation for teaching about religion.
- 430-3 *Teaching About Religion in the Public Schools* (Taught jointly with College of Education; see ED 430.) Introduction to the historical background and court decisions pertaining to teaching about religion in the public schools; current ways in which religion is taught in the public schools; new experimental approaches to teaching about religion.
- 431-3 *Religion in American Life* (Offered jointly with Department of History; see HST 471.) Development of religious thought and institutional life in the United States viewed in relationship to American social change. Offered alternate years.
- 450-1 to 3, 451-1 to 3, 452-1 to 3 *Undergraduate Research in Religion* Intensive consideration of problems and issues in a given area of religion study; topic determined in consultation between student and department. Pass/unsatisfactory grading used at discretion of department.
- 453-3, 454-3 *Age of Renaissance and Reformation* (Offered jointly with Department of History; see HST 453, 454.) Decline of European feudalism and rise of the nation-state; revival of culture and arts; decline of universal Church and growth of religious diversity. 453: 1350-1500. 454: 1500-1648. Offered alternate years.

- 470-3 *Workshop* Intensive study of selected problems (e.g., the teaching of religion in secondary schools, medical ethics) to meet particular needs of participating students. Specific subtitles announced for each workshop. May be repeated under different subtitle subject to maximum limits established by student's department. Junior or senior standing or consent of instructor required.
- 481-1 to 4, 482-1 to 4, 483-1 to 4 *Independent Reading* Written proposal by each student, with faculty and departmental approval, required for acceptance in course. Generally restricted to juniors and seniors.

## Russian (RUS)

- 101-4, 102-4, 103-4 *First-Year Russian* Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing. Must be taken in sequence.
- 201-3, 202-3, 203-3 *Second-Year Russian* Grammar review, reading and discussion of selected texts with practice in speaking and writing. Must be taken in sequence. Prerequisite: RUS 103.
- 301-3, 302-3, 303-3 *Russian Literature* Historical survey of Russian literature from its beginning to the present. Prerequisite: RUS 203.
- 341-2, 342-2, 343-2 *Russian Conversation* Emphasis on the culture of the Russian-speaking world. Prerequisite: RUS 203 or equivalent.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of Russian.

## Social Work (SW)

- SOC 111 and 112 are prerequisite to all social work courses.
- 270-3 *Social Welfare as a Social Institution* Introduction to Social Work program. History, purpose, and effectiveness of contemporary social welfare system. Development of social work profession.
- 370-3 *Community Welfare Organization* Analysis of the community's organization to meet social welfare needs of its people. Field placement of four clock hours per week in a social agency to study one unit of community's welfare organization. Prerequisite: SW 270 or permission of instructor.
- 380-3, 381-3 *Social Work Practice I, II* Foundation sequence of generic social work practice theory. Problem assessment, data collection, data analysis, interventive methods, and evaluation procedures are studied and simulated. Prerequisite: SW 370 or permission of instructor. Must be taken in sequence.
- 389-4 *Seminar on Special Problems in Social Work Practice* Selected topics related to current issues in social work practice; readings, research, discussion. Prerequisite: twelve hours of social work and consent of instructor.
- 394-2 to 4 *Readings in Social Work*
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of social work.





- 462-3 *Social Gerontology* (Taught jointly by Department of Sociology; see SOC 462.) Study of social aspects of aging, the needs of the aging population and society's response to the needs. Consent of instructor required.
- 470-3 *Social Welfare Policy* Development, current status, and effectiveness of public policies that influence individual social functioning. Application of social work values to current social structures that provide for social needs beyond the capacity of individuals to provide for themselves. Prerequisite: SW 370.
- 472-3 *Social Work and the Law* Legislative base of various social welfare agencies and programs. Legal authority aspects of various social work practice roles. Social work practice relations to judicial, law enforcement, and legislative processes. Prerequisite: SW 370.
- 477-4 *Seminar on Special Problems in Social Welfare Policy and Services* Selected topics related to the operation of the social welfare system in America; issues, trends, and problems. Prerequisite: twelve hours of social work and consent of instructor.
- 481-3 *Interventive Methods with Individuals* In-depth study of social work practice theory for the enhancement of social functioning of individuals. Prerequisite: SW 381.
- 482-3 *Interventive Methods with Groups* In-depth study of social group work practice theory including practice simulations using the class as an illustrative group. Prerequisite: SW 381.
- 483-3 *Interventive Methods with Families* Strategies for the analysis of and intervention into family functioning. Techniques in conjoint interviewing including simulations of family functioning and family therapy sessions. Prerequisite: SW 381.
- 484-3 *Interventive Methods with Organizations and Larger Systems* Strategies for effecting change in organizations, service delivery systems, and social welfare resource utilization in communities. Prerequisite: SW 381.
- 487-6 or 15 *Practicum in Social Work* Application of theory to practice in agency settings. Individually supervised learning experiences under direction of agency staff and faculty. May be repeated to eighteen hours. Application for placement must be made with instructor quarter prior to planned registration. Consent of instructor required.

490-4, 491-4 *Research Methods in Social Work I, II* Sequence study of evaluative research design methodology. Development of criteria for the selection and intelligent consumption of research reports. Evaluation of selected research reports for relevance to social work practice. Prerequisite: SW 370.

494-2 to 4 *Independent Research in Social Work*

## Sociology (SOC)

111-3, 112-3 *Introduction to Sociology I, II*. Principles and problems of normal social life. Must be taken in sequence.

SOC 111 and 112 are prerequisite to all other sociology courses.

206-3 *Introduction to Methodology* Theoretical, philosophical, and practical issues of sociological investigation. Statistical and sampling procedures related to sociological sources of data. Formerly listed as SOC 406.

207-3 *Research Methods* Designing and conducting a research project, applying principles learned in SOC 206. Prerequisite: SOC 206. Formerly listed as SOC 407.

210-3 *Courtship and Marriage* Analysis of United States family behavior, stressing courtship, marriage, child rearing, and marital tension.

212-3 *Woman's Place in the Seventies* Status and role of woman in today's society. Knowledge concerning women drawn from history, biology, psychology, and sociology utilized to explore the relation of women to current social institutions. Includes sex-role learning in children, male and female, the third-world women, women and economics, women and politics, and the future of marriage and the family.

221-3 *Social Problems* Definition, extent, and prevention of selected social problems in the United States. Formerly listed as SOC 200.

301-3 *History of Sociological Theory* Historical study of the emergence and development of sociological thought from Adam Smith and Comte to the twentieth century; emphasis on the basic writings of Adam Smith, Comte, Spencer, Marx, Durkheim, Weber, and Simmel. Prerequisite: nine hours of sociology.

303-3 *Contemporary Sociological Theory* Continuation of SOC 301. Analyzes contemporary sociological theory with focus on the interpretation of society (structural functionalism, symbolic interactionism, action theory, phenomenological theory) and on such major figures as Talcott Parsons, Robert Merton, Alfred Shutz, C. Wright Mills, and Erving Goffman. Formerly listed as SOC 402.

311-3 *Technology and Society* (Taught jointly with the Department of Engineering; see EGR 300-3.) Important developments in engineering and technology; their interrelations with society and human values viewed in historical and in contemporary perspective. Open to juniors and seniors in all colleges.



- 312-1 to 6 *Workshop in Current Problems* Specific subtitles to be added with individual workshops. Intensive study of a particular problem area, utilizing professionally qualified personnel from the academic and community environments. Consent of instructor required. May be repeated for a maximum of nine quarter hours. Formerly listed as SOC 470.
- 320-3 *Sociology of Deviant Behavior* Extensive exploration of the various sociological approaches to the study of deviance and social disorganization with emphasis upon contemporary sociological theory and research.
- 330-3 *Criminology* Survey of crime, some casual theories, and attempts at prevention in the United States.
- 332-3 *Juvenile Delinquency* Problems of definition and treatment of delinquency and preparation for further study or work with the delinquent child.
- 340-3 *Social Organization* Causes and theories of equilibrium and disequilibrium. Formerly listed as SOC 415.
- 341-3 *Social Stratification* Theories of class structure, its indices, measurement, and consequences for society, especially in America. Formerly listed as SOC 420.
- 342-3 *Population Analysis* Population theory, characteristics, migration, vital rates, growth, and policies. Formerly listed as SOC 220.
- 360-3 *Sociology of Family* Sociological analysis of development of the family, its relationship to society, and its contribution to personality. Formerly listed as SOC 310.
- 361-3 *Sociology of Religion* (Offered jointly with the Department of Religion; see REL 361.) General treatment of religion, examining the influence of religious ideas and institutions on other social institutions, and the influence of society upon religion. Prerequisite: introductory courses in sociology and religion. Formerly listed as SOC 321.
- 362-3 *Political Sociology* Analysis of the political institution and the important theories about it; political decision making, power, and the instrumentalities of power. Formerly listed as SOC 305.
- 363-3 *Sociology of Education* The school as a social institution, school-community relations, social control of education, and structure of school society. Formerly listed as SOC 315.
- 380-3 *Individual and Society* Interaction between society and the individual, forms and content of social relationships, and socialization as a social process. Formerly listed as SOC 313.
- 390-2 to 4 *Directed Readings in Sociology*
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of sociology.
- 401-3 *Selected Topics in Theory/Methods* Specific topics announced each time course is offered. Consent of instructor required.
- 432-3 *Penology* Historical development and critical assessment of penal institutions. Field visits to selected institutions.
- 433-3 *Internship in Corrections* Supervised field experience in some area of corrections (probation, parole, jail, etc.). Requirements include assigned readings, a daily log, regular progress reports, and a final paper synthesizing readings and field experience. May be repeated for credit up to a total of nine quarter hours. Prerequisite: six hours from SOC 330, 332, 432.
- 434-3 *Social Life and Organization in Extreme Conditions* This course will examine the concept of social organization via the forms social interaction takes in extreme conditions such as mental hospitals, concentration camps, prisons, and skid rows.
- 439-3 *Selected Topics in Problems/Deviance* Variable content; specific topic will be announced when the course is offered. Consent of instructor required.
- 440-3 *Complex Organizations* Broad theoretical and practical study of organizations viewed as total systems: their nature, types, goals, formal and informal processes, and environmental relations. Formerly listed as SOC 417.
- 441-3 *Industrial Sociology* Cross-cultural analysis of industrialization; organization of relationships within industrial social groups. Formerly listed as SOC 300.
- 442-3 *Minority Relations* Description and analysis of emergence and trends in modern times. Formerly listed as SOC 335.
- 443-3 *Demography* Collection, collation, analysis, and presentation of demographic data. Prerequisite: SOC 342. Formerly listed as SOC 424.
- 444-3 *Urban Sociology* Ecological analysis of urban life; special reference to large cities in the United States. Formerly listed as SOC 230.
- 445-3 *Rural Sociology* Structure and functioning of rural society, rural-urban relationships, and the impact of state and federal agricultural policies on current rural life. Prerequisite: SOC 112.
- 446-3 *Community Studies* Explanation of various types of American communities and major social theories concerning the community. Formerly listed as SOC 425.
- 460-3 *Sociology of Law* The law and legal institutions as revealed in selected classical and contemporary sociological literature. Prerequisite: SOC 301 and consent of instructor.
- 462-3 *Social Gerontology* (Taught jointly by the Department of Social Work; see SW 462.) Study of social aspects of aging, the needs of the aging population and society's response to the needs. Prerequisite: SOC 112.
- 479-3 *Selected Topics in Social Institutions* Variable content. Specific topics will be announced in the schedule when course is offered. Consent of instructor required.
- 480-3 *Collective Behavior* The nature of crowds, mobs, fads, social movements, and revolutions, and the role of public opinion and propaganda in these phenomena. Consent of instructor required.
- 481-3 *Sociology of Small Groups* Study of small groups as they epitomize social situations and social behavior, with emphasis on both intergroup and intragroup structure and processes. Prerequisite: SOC 380 or PSY 302 or 351.



- 489-3 *Selected Topics in Social Psychology* Variable content; specific topics will be announced when the course is offered. Prerequisite: nine hours of sociology and consent of instructor.
- 490-2 to 4 *Independent Research in Sociology*

### Spanish (SPN)

- 101-4, 102-4, 103-4 *First-Year Spanish* Study of the vocabulary and structure of the Spanish language; practice in conversation, reading, and writing. Must be taken in sequence.
- 201-3, 202-3, 203-3 *Second-Year Spanish Grammar* review, reading, and discussion of selected texts with practice in speaking and writing the language. Must be taken in sequence. Prerequisite: SPN 103 or equivalent.

### Advanced Courses

SPN 203 or the equivalent is the minimum prerequisite for all advanced Spanish courses.

- 301-3, 302-3, 303-3 *Spanish Literature* Historical survey of Spanish literature from its beginning to the present. 301: From the beginning to the Golden Age. 302: From the Golden Age to Romanticism. 303: From Romanticism to the present day.
- 321-3, 322-3, 323-3 *Spanish Composition* Oral and written composition in Spanish; translations from English into Spanish. Further grammar study. Should be taken concurrently with SPN 341, 342, 343.
- 331-3, 332-3, 333-3 *Spanish-American Literature* Reading of poetry, novels, and plays. 331: From pre-Columbian times to the period of independence. 332: Nineteenth Century. 333: From Modernism to the present day.
- 341-2, 342-2, 343-2 *Spanish Conversation* Emphasis on the culture of the Hispanic world. Should be taken concurrently with SPN 321, 322, 323.
- 361-3 *Spanish Phonetics* Study of vowel and consonant sound system through phonetic method; intonation.
- 381-1, 382-1, 383-1 *Applied Elementary Spanish Instruction* Spanish majors assist elementary course instructors in conducting classes. Permission of instructor required. For Spanish majors only.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of Spanish.

The following courses require SPN 303 and 323 or consent of instructor. When appropriate, additional prerequisites are designated.

- 401-3 *The Spanish Picaresque Novel* Intensive reading of such works as *Lazarillo de Tormes*, *Vida del Buscon*, and *Guzman de Alfarache*.
- 402-3 *The Spanish Novel of the Nineteenth Century* Nineteenth-century prose works by Galdos and others.
- 403-3 *Advanced Studies: Language / Civilization* Course content will vary. Topic chosen by instructor. Conducted in Spanish.

- 411-3 *Golden Age Drama* Intensive readings of dramas by playwrights of the sixteenth and seventeenth centuries.
- 412-3 *Modern Drama* Intensive readings of dramas by playwrights of the nineteenth and twentieth centuries.
- 421-3, 422-3, 423-3 *Cervantes* 421: Intensive study of *Don Quixote*, Part I. 422: Intensive study of *Don Quixote*, Part II. Prerequisite: SPN 421. 423: Readings in Cervantes' other works, including *novelas ejemplares*, *entremeses*, and longer dramatic works. Lectures, discussions, and oral reports on Cervantes and his time.
- 431-3 *Seminar in Spanish Literature* Intensive study of selected topics in peninsular literature. Background lectures, oral reports, and discussions.
- 432-3 *Seminar in Spanish-American Literature* Intensive study of selected topics in Spanish-American literature. Background lectures, oral reports, and discussions. Prerequisite: SPN 333 or consent of instructor.
- 441-3 *Contemporary Spanish Literature* Readings in the novel, poetry, and drama of major Spanish writers in the post-Civil War period.
- 442-3 *Contemporary Latin-American Literature* Readings in the novel, poetry, and drama of various Latin-American writers from the late 1930s to the present day. Prerequisite: SPN 333 or consent of instructor.
- 450-1 to 3 *Undergraduate Research in Spanish*
- 462-3 *The Generation of 1898* Novel, poetry, and theatre of Unamuno, Baroja, and others.
- 471-3, 472-3 *Linguistics* See LI 471, 472.
- 481-3, 482-3 *Independent Reading for Advanced Students*

### Speech Communication (SPC)

- 101-3 *Essentials of Public Address* Fundamentals of verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and in purposeful organization and development of a speech. Formerly listed as SPC 135.
- 102-3 *Essentials of Communication* Introduction to verbal and nonverbal intra- and interpersonal communication processes. Emphasis on the humanistic approach to communication with an analysis of experiences and behaviors.
- 103-3 *Fundamentals of Communication for Elementary Teachers* Principles and practice of oral communication in discussion, reading aloud, story telling, and public speaking. Open to elementary education majors only. Formerly listed as SPC 126.
- 111-3 *Oral Interpretation* Introduction to the oral experience of literature. Theory and technique of oral reading. Frequent performances by students.
- 121-3 *Voice and Articulation* Introduction to principles of voice and articulation, to raise levels of adequacy from substandard to that considered acceptable for college graduates.



- 125-3 *Speech Development and Disorders* Lectures on development of speech and speech disorders; especially for elementary education majors. Not credited for certification in a speech and hearing major. Secondary speech education majors should take SPC 127.
- 127-3 *Introduction to Speech Disorders* Development of normal speech; disorders of speech; special problems of speech handicapped; speech therapy and the therapist. Required for speech and hearing majors; recommended for secondary education majors.
- 128-3 *Phonetics* Speech sounds of the English language; phonetic alphabet; introduction to dialects. Required for speech and hearing majors.
- 130-1 *Introduction to Forensic Activities* Research, practice, and participation in forensic activities. Includes debate, original oratory, extemporaneous speaking, oral interpretation, after-dinner speaking, speaker's bureau, and discussion. Repeatable for maximum of four credits. May not be taken concurrently with SPC 330. Permission of instructor required.
- 133-3 *Parliamentary Procedure* Theory and practice in parliamentary procedure including creation of a class organization and construction of a constitution. Practice in framing and debating proposals.
- 141-3 *Small Group Communication* Theory and practice in small group communication with projects in definition, analysis, research, organization, logical processes, and leadership. Recommended for business and professional students and prospective teachers. Formerly listed as SPC 131.
- 151-3 *Introduction to Broadcasting* Fundamentals of broadcasting, including the development, use of equipment, and practice in effective radio and television speaking. Formerly listed as SPC 143.
- 203-3 *Business Communication* Introduction to the theory and practice of communication with emphasis on the various communicative activities of an organization. Cannot be substituted for SPC 101, 102, 103.
- 211-3 *Advanced Oral Interpretation* Advanced studies in oral performance. Rhetorical, aesthetic, and formalistic approaches to literature in its oral domain. Frequent performances by students. Prerequisite: SPC 111 or consent of instructor. Formerly listed as SPC 112.
- 221-3 *Advanced Voice and Articulation* Development of heightened speech effectiveness for students planning work in professions requiring special speech skills (acting, radio, TV, etc.). Prerequisite: SPC 128. Offered alternate years.
- 223-3 *Physiology of Speech I* Study of the anatomical and physiological basis of speech. Prerequisite: SPC 127, 128.
- 224-3 *Physiology of Speech II* Study of the neurological basis of speech. Prerequisite: SPC 223.
- 228-3 *Speech Science* Analysis of processes involved in production and reception of speech. Prerequisite: SPC 128.
- 232-3 *Argumentation: Principles and Practice* Projects in analysis, research, briefing, ordering of arguments and evidence, refutation, audience evaluation, argumentative composition, and delivery. Recommended for prospective lawyers, business and professional students, and teachers of speech. Prerequisite: SPC 101 or permission of instructor.
- 233-3 *Persuasion: Theory and Practice* Delineation of the concept of persuasion. Survey of classical theory and behavioral research and theory. Experience in preparation and presentation of persuasive communication. Prerequisite: SPC 101.
- 321-3 *Speech Pathology I* Survey of functional and psychogenic speech disorders. Prerequisite: SPC 127, 128. Formerly listed as SPC 345.
- 322-3 *Speech Pathology II* Survey of organically based speech disorders. Prerequisite: SPC 321. Formerly listed as SPC 346.
- 324-3 *Audiology* Acquaints students with the science of hearing. Prerequisite: SPC 127. Formerly listed as SPC 350.
- 325-3 *Hearing Problems and Testing* Trains students to test the hearing function. Prerequisite: SPC 324. Formerly listed as SPC 351.
- 330-1 *Advanced Forensic Activities* Research, practice, and participation in tournaments, forums, symposia, and exhibition speaking. Repeatable for maximum of four credits. May not be taken concurrently with SPC 130. Permission of instructor required.
- 331-3 *Rhetorical Criticism* Principles, purposes, and philosophy of rhetoric. Emphasis on critical perspectives, structure, and effectiveness of oral discourse from classical to contemporary eras. Prerequisite: SPC 135 and junior standing.
- 335-3 *History of Rhetoric I* Survey of rhetorical theory in the Greek and Roman world. Emphasis on selected works of Plato, Aristotle, Isocrates, Cicero, and Quintilian. Prerequisite: SPC 101 or permission of instructor.
- 336-3 *History of Rhetoric II* Survey of rhetorical theory from the Middle Ages to the nineteenth century. Focuses on works of Erasmus, Wilson, Bacon, Ramus, Fenelon, and their principal contemporaries. Prerequisite: SPC 101, 335, or permission of instructor.
- 337-3 *History of Rhetoric III* Survey of modern and contemporary rhetoric including works of Campbell, Blair, Whately, Burke, Richards, and McLuhan. Prerequisites: SPC 101, 336, or permission of instructor.
- 341-3 *Ethics in Communication* Historical and contemporary perspectives on the application of ethics to various forms of communication in a free society. Junior standing or permission of instructor required.
- 352-3 *Mass Communication* Study of the types, functions, and impact of the various mass communication media.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of speech.
- 421-3 *Speech and Language Development* Development of speech and language in the preschool years. Prerequisites: SPC 125 or 127 and junior standing.



- 422-3 *Language Disorders* Diagnosis and treatment of language disorders in children. Emphasis on research in language problems of the mentally retarded, emotionally disturbed, and language-delayed child. Prerequisite: SPC 421.
- 429-4 *Urban Communications Theory* Processes and institutions by which individuals and groups communicate in an urban environment. Model of an urban communication system developed by interdisciplinary systems approach.
- 430-3 *Directing the Forensic Program* Intensive study of the administration, coaching, and teaching of high school and college forensics.
- 441-3 *Forms of Interpersonal Communication* Interpersonal communication with special emphasis on the psychology of the speaker and the listener. Prerequisite: SPC 331 or permission of instructor. Formerly listed as SPC 332.
- 443-3 *Interviewing* Theory and practice in interviewing procedure including the use of sample interviews and role-playing situations.
- 445-3 *Group Communication and Conference Leadership* Intensive study of group communication regarding leadership development and member participation; examination of the characteristics of the group and the various aspects of decision making.
- 447-3 *Organizational Communication* Study of communication within an organization including an examination of the variables that affect communication productivity.
- 449-3 *Survey of Communication Research* Provides students with a basic knowledge of the behavioral approach and current theories and experiments in communications research. Prerequisite: SPC 233, 441, or permission of instructor. Formerly listed as SPC 451.
- 453-3 *Communication and Conflict* An in depth study of the function of communication in conflict/crisis situations. Special attention is given to the role that communication performs in conflict resolution in intrapersonal, interpersonal, group, and international situations.
- 471-3 *Topics in Speech Communication* An examination of special topics in the various areas of speech communication. Specific titles are announced each time a course is offered. May be repeated for credit.
- 481-2 to 3 *Independent Study* Faculty-directed readings and research. Junior or senior standing, 3.0 average in major, and permission of instructor and department chairman prior to registration required.
- 482-1 to 3 *Senior Honors Project* An independent studies course for students accepted into the speech communications honors program. The course allows students to pursue research that culminates in a senior honors thesis or project. Prerequisite: nine hours of communication honors course.
- 491-1 *Communication Techniques and Evaluation* The philosophy and techniques of conducting communication events. Includes the planning, initiating, and summarizing of communication activities, and evaluating written and oral performance. Repeatable for a maximum of three credits. Permission of instructor required.

## Study Skills (SS)

- 091-3 *Study Skills* The study skills courses offer instruction which is individual in nature and covers basic mathematics, vocabulary, reading, research, speaking, and writing. The course of study is based on preliminary testing; post tests are used to measure progress. These courses are equivalent to regular university courses and teach the student how to learn. While students enrolled in these courses receive credit and the work load is equivalent to a three credit-hour course, the three hours do not count toward a bachelor's degree.

## Technical Courses (TAC, TAD, TEG, TEN, TFI, TMG, TMK, TMT, TOA, TPH, TQB)

See Branch Campuses.

## Theatre (TH)

See Motion Pictures (TH) and Dance (DAN) for additional course listings.

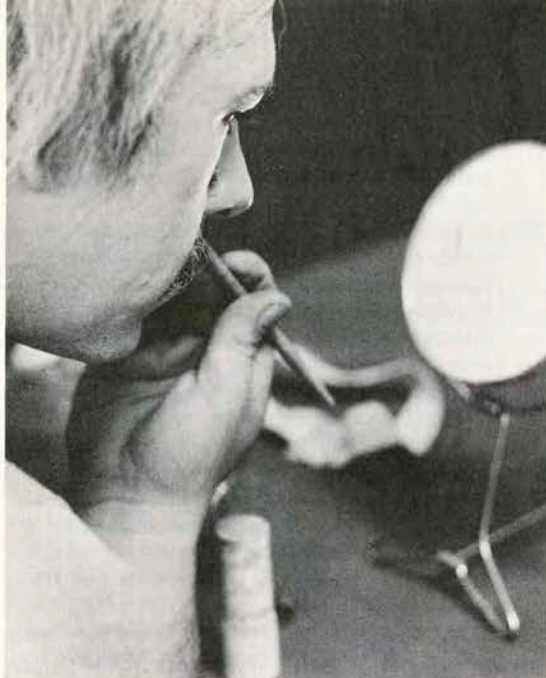
- 101-3 *The Arts of the Theatre* Develops understanding and appreciation of drama and the theatre. Critical analysis of the theatre as art form; includes functions of playwright, actor, director, critic, designer, and theatre architect.
- 102-3 *Introduction to Technical Theatre* General survey of technical aspects of theatre including its personnel and organization. Lab hours to be arranged.
- 108-3 *The Voice in Performance* Training in the requirements of good voice in the theatre, projection through breath control, support of tone, resonance, voice placement and articulation.
- 110-1 to 3 *Theatre Arts Activities* Participation in University Theatre productions; specific assignments determined at initial meeting. May be repeated for credit but not more than six quarters may be applied toward requirements for the major in theatre.
- 120-3 *Makeup for the Theatre* Lecture-laboratory course in theory and practice of stage makeup. Participation in departmental productions. Prerequisite: TH 101.
- 140-3 *Stage Movement* Fundamental work in developing the body as an acting instrument; acquisition of strength, flexibility, relaxation, and control.





- 144-3 *Acting: Improvisation* Emotional and expressive freedom for acting through improvisational theatre techniques. Exercises in developing sense memories and pantomimic recall; exercises to heighten the actor's observations, imagination, and creative powers.
- 203-3 *Contemporary Theatre* Critical study of contemporary theatre and its standards and production methods. Attendance at several current productions required. Theatre tickets must be purchased by the student. Prerequisite: TH 101.
- 220-3 *Stagecraft* Introduction to theory and practice of sceneography and study of materials and techniques of executing stage scenery. Involves practice in construction and mounting of a production. Lab hours to be arranged. Prerequisite: TH 102.
- 222-3 *Theatrical Drafting* The conventions of drafting and the use of instruments specifically applied to theatrical plans, sections, elevations, and perspectives. Prerequisite: TH 220.
- 244-3 *Acting: Characterization* Techniques and methods of interpreting and projecting a role through study and performance. Sensory responsiveness and application of experience to characterization. Lab hours to be arranged. Prerequisite: TH 144.
- 290-3 *Theatre Management* Operational procedures for school, community, and professional theatre. Includes problems of organization, personnel, budgeting, purchasing, accounting, ticket sales, publicity, promotion, and house management. Prerequisite: TH 101.
- 304-4 *Dramatic Writing* Theory and practice of the techniques of dramatic writing, emphasizing the writing of original plays. Prerequisite: ENG 111, 112, or permission of instructor.
- 310-1 *Theatre Arts Activities* Participation in University Theatre productions; specific assignments determined at initial meeting. May be repeated for credit but not more than six hours may be applied toward requirements for the major in theatre.
- 311-3 *Oral Reading of Drama* Analysis and practice in reading from plays and dramatic poetry; reader's theatre; performance.
- 320-3 *Stage Lighting* Mechanics of stage lighting, including the physics of light, electricity, lighting instruments and control devices, and the basic theories of lighting the stage. Lab hours to be arranged. Prerequisite: TH 220.
- 321-3 *Stage Lighting Design* Aesthetics of stage lighting, including project designs for all types of theatrical productions, films, and television. Prerequisite: TH 222, 320, or permission of instructor.
- 324-3 *Scene Design I* Introduction to art of scene design. Contemporary scene designers in Europe and America; assigned reading and criticism of weekly sketch problems. Ground plans and designer's sketches. Prerequisite: TH 220.
- 325-3 *Scene Design II* Specific theoretical projects designed to increase the skill level of the student designer in the areas of interpretation, rendering, model building, and sketching. Prerequisite: TH 324.
- 328-3 *Costume Design* Theory and practice of costume design and application of costume design principles to stage productions. Prerequisite: TH 101.
- 329-3 *Costume Crafts* Theory and practice in advanced costume construction, pattern drafting, fabric dying and painting, decoration, and fitting; emphasis on new materials and techniques. Prerequisite: TH 328 or permission of instructor.
- 344-3 *Acting: Styles* Techniques of acting in major nonrealistic styles through scene study and performance. Lab hours to be arranged. Prerequisite: TH 108, 140, 244.
- 350-4 *Directing* Problems of script selection and interpretation, casting, rehearsing, and performance. Techniques of composition and movement; the proscenium stage and open stage. Preparation of the prompt book. Prerequisite: TH 244.
- 352-2 *Directing Laboratory* Presentation of a one-act play in the studio theatre for departmental and public audiences. Prerequisite: TH 350.
- 360-3, 361-3, 362-3 *History of the Theatre, I, II, III* 360: Primitive through medieval theatre. 361: Elizabethan through 18th-century theatre. 362: 19th century through theatre of present day.
- 365-3 *Theory and Criticism* Changing concepts of dramatic structure and criticism through comparative examination of works of selected playwrights and critics. Chief theories of dramatic production in relation to aesthetic principles.
- 366-3 *Theatre Repertoire I: From Aeschylus to Jonson* The special problems of analysis, acting, and staging plays from the various periods of theatre history are explored from a production point of view.
- 367-3 *Theatre Repertoire II; From Beaumont to Chekhov* The special problems of analysis, acting and staging plays from the various periods of theatre history are explored from a production point of view.
- 368-3 *Theatre Repertoire III: From Shaw to Albee* The special problems of analysis, acting, and staging plays from the various periods of theatre history are explored from a production point of view.
- 370-3 *Creative Dramatics* Study of the nature of creativity in children and of the techniques which develop sensitivity, bodily freedom, characterization, and impression.
- 390 2-3 *Projects in Theatre* Advanced individual work, required of all theatre majors. Student prospectus subject to departmental approval by end of quarter preceding registration.
- 399-1 to 4 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of theatre.
- 410-3 *Technical Theatre Production* Individually assigned problems in technical theatre production; participation in at least one departmental production activity. May be repeated for credit but not more than eighteen hours may be applied toward requirements for the B.F.A. in theatre. Junior or senior standing and departmental permission required.





The following series of studies courses is intended to provide a wide range of courses approaching theatre from a variety of important viewpoints. Courses scheduled under each title offer intensive study of selected aspects of the topic. Exact titles are announced each time courses are offered. Permission of department required for all studies courses.

420-3 *Studies in Theatre Technology*

424-3 *Studies in Design*

444-3 *Studies in Acting*

450-3 *Studies in Directing*

460-3 *Studies in Theatre History*

470-3 *Studies in Child Drama*

491-3 *Seminar in Theatre* Selected topics in theatre. Permission of instructor required.

495-3 to 12 *Workshop in Theatre* Intensive study of special topics or problems, or intensive experience in theatrical presentations according to particular needs of participants. Specific titles announced for each workshop. May be repeated for credit. Junior or senior standing or permission of instructor required.

498-12 to 15 *Professional Theatre Internship* Placement of superior upper-division B.F.A. theatre majors in various professional theatres as management or production interns. Junior or senior standing and permission of department required; B.F.A. theatre majors only.

## University Division (UD)

102-1 *Careers* To expose students who are undecided about their major field of interest to all the vocational areas of the university.

## Urban Studies (URS)

211-4 *Introduction to Urban Studies* Interdisciplinary introduction to general field of urban studies. Reviews "idea of the city" and meaning of urban life.

399-1 to 6 *Studies in Selected Subjects* Course of variable content dealing with problems, approaches, and topics in the field of urban studies.

411-4 *Seminar in Urban Studies* Restricted to seniors in urban studies. Includes development of a major research paper and a bibliography in urban studies. Permission of instructor required.

490-1 to 4 *Special Topics* Advanced study in selected topics in urban studies. Topics may include new developments in methodology or the various subfields of the discipline. May be repeated for a total of eight hours.

492-6 *Urban Studies Internship* Senior-level internship in which the student works in the offices of a local public agency. Restricted to urban studies majors; permission of instructor required. May be repeated once.



# Faculty and Administrative Officers





**Adams, Robert W.** Associate Professor of Political Science and Department Chairman A.B., 1955, Utica; M.A., 1961, Syracuse; Ph.D., 1969, Ohio State

**Ahmad, Khurshid** Associate Professor of Finance B.A., 1953, Karachi; M.A., 1955, Punjab; Ph.D., 1970, Pennsylvania

**Albanese, Catherine L.** Associate Professor of Religion B.A., 1962, Chestnut Hill; M.A., 1968, Duquesne; M.A., 1970, Ph.D., 1972, Chicago

**Alf, Carol J.** Assistant Professor of Mathematics, B.S., 1970, Bowling Green; M.A., 1972, Ph.D., 1975

**Amsden, Robert T.** Assistant Professor of Quantitative Business Analysis B.A., 1960, New Hampshire; M.S., 1964, Ph.D., 1969, Rutgers

**Andrew, Richard H.** Assistant Professor of Theatre Arts B.A., 1964, Emporia State; M.A., 1965, Bowling Green; Ph.D., 1971, Illinois

**Andrews, Gloria** Music Associate B.S., 1953, Middle Tennessee State; M.A., 1954, Appalachian State

**Andrews, Merrill L.** Associate Professor of Physics B.A., 1960, Cornell; Ph.D., 1967, Massachusetts Institute of Technology

**Anon, Norman** Professor of Economics A.B., 1948; M.S., 1951, Ph.D., 1954, Wisconsin

**Apt, Madeline H.** Associate Professor of Education B.S., 1960, M.Ed., 1962, Ph.D., 1966, Pittsburgh

**Arbaci, Martin** Assistant Professor of History A.B., 1961, Georgetown; M.A., 1967, Ph.D., 1969, Rutgers

**Arlan, Larry G.** Associate Professor of Biological Sciences B.S., 1966, M.S., 1968, Colorado State; Ph.D., 1972, Ohio State

**Atsalis, Theodore N.** Associate Professor of Music B.Mus., 1960, M.Mus., 1962, Miami; D.M.A., 1973, Cincinnati College-Conservatory of Music

**Babb, Georgiana** Associate Professor of Modern Languages B.A., 1943, M.A., 1946, Ph.D., 1951, Ohio State

**Bacon, Peter W.** Associate Professor of Finance B.A., 1962, Albion; M.B.A., 1964, D.B.A., 1967, Indiana

**Badaczewski, Dennis** Assistant Professor of Education B.A., 1966, Northern Michigan; M.A., 1969, Eastern Michigan; Ed.D., 1971, Kansas

**Baird, Raymond R.** Associate Professor of Psychology A.B., 1965, Eastern New Mexico; M.S., 1967, Ph.D., 1969, Washington

**Baker, William D.** Professor of English B.A., 1946, Hobart; M.A., 1948, Chicago; Ph.D., 1950, Northwestern

**Ballantine, Harden P.** Assistant Professor of Education B.A., 1961, Franklin and Marshall; M.Ed., 1967, Columbia; Ed.D., 1973, Indiana

**Ballantine, Jeanne** Associate Professor of Sociology B.S., 1963, Ohio State; M.A., 1966, Columbia; Ph.D., 1971, Indiana

**Barlow, Gary C.** Professor of Art Education; Coordinator of Art Education B.S., 1957, M.Ed., 1958, Miami; Ed.D., 1967, Pennsylvania State

**Barone, Sam** Professor of Management; Dean of the College of Business and Administration B.S., 1958, M.S., 1959, Ph.D., 1962, Illinois

**Barr, David L.** Assistant Professor of Religion B.A., 1965, Fort Wayne Bible College; M.A., 1969, Ph.D., 1974, Florida State

**Barry, Steven H.** Assistant Professor of Psychology B.A., 1967, M.A., 1969, California State; Ph.D., 1974, Rochester

**Barton, Lisa** Instructor in English B.A., 1961, Michigan; M.A., 1969, Michigan

**Bassett, Abe J.** Professor of Theatre Arts and Department Chairman B.A., 1952, Bowling Green; M.A., 1957, Ph.D., 1962, Ohio State

**Bastian, Joseph J.** Assistant Professor of Mathematics B.A., 1969, Hamline; M.A., 1971, Indiana; Ph.D., 1973

**Batra, Prem P.** Professor of Biological Chemistry B.S., 1955, M.S., 1958, Punjab; Ph.D., 1961, Arizona

**Battigaglia, Ullainee** Instructor in Nursing B.S., 1954, Dayton; M.S.N., 1960, Catholic

**Battino, Rubin** Professor of Chemistry B.S., 1953, City College of New York; M.A., 1954, Ph.D., 1957, Duke

**Becker, Carl** Associate Professor of History and Acting Chairman B.A., 1949, Otterbein; M.A., 1950, Wisconsin; Ph.D., 1971, Cincinnati

**Beelick, Donald J.** Assistant Professor of Philosophy B.A., 1963, Western Michigan; M.A., 1967, Ph.D., 1972, Ohio State

**Beljan, John R.** Professor of Surgery and Biomedical Engineering; Dean of the School of Medicine; Vice-Provost B.S., 1951, M.D., 1954, Michigan

**Belna, Charles L.** Associate Professor of Mathematics, WOBC B.S., 1965, Dayton; M.S., 1967, Ph.D., 1969, Michigan State

**Benner, Carl V.** Associate Professor of Education B.S., 1957, Rio Grande; M.A., 1960, Northern Iowa; M.S., 1960, Purdue; Ed.S., 1965, Bowling Green; Ph.D., 1970, Ohio State

**Bennett, Agnes** Instructor in Nursing R.N., 1944, Mt. Carmel Hospital School of Nursing (Columbus); B.S.N., 1947, St. Mary of the Springs; M.S.N., 1968, Nebraska (Omaha)

**Bennett, Stephen T.** Instructor in Political Science B.A., 1969, M.P.A., 1971, Kent State

**Berry, Charles R.** Associate Professor of History B.A., 1954, George Washington; M.A., 1963, Ph.D., 1967, Texas

**Bethke, Richard J.** Associate Professor of Engineering B.S.M.E., 1965, Ph.D., 1970, Wisconsin

**Bicknell, Ina** Instructor in Biological Sciences B.A., 1964, Indiana; M.A., 1973, Washington University

**Bireley, Marlene** Professor of Education B.S., 1957, Bowling Green; M.A., 1961, Ph.D., 1966, Ohio State

**Blake, Charles H., Jr.** Associate Professor of Economics B.S., 1949, Linfield; M.S., 1953, Ph.D., 1966, Wisconsin

**Blakeley, Edward D.** Instructor in Quantitative Business Analysis B.S., 1969, M.B.A., 1971, Colorado

**Bland, Leland D.** Assistant Professor of Music B.S., 1962, M.A., 1963, Northeast Missouri State; Ph.D., 1973, Iowa

**Bognar, Bela J.** Assistant Professor of Social Work B.S., 1962, Ecole Sociale de Lourain; M.S.W., 1966, Wisconsin (Milwaukee); Ph.D., 1974, Wisconsin (Madison)

**Boo, Sung Lai** Associate Professor of Social Work B.A., 1957, Central Theological Seminary (Korea); B.A., 1962, Hong Ik Univ.; M.S., 1966, Ph.D., 1970, Florida State

**Bracher, Peter S.** Professor of English B.A., 1954, Wittenberg; M.A., 1956, University of Washington; Ph.D., 1966, Pennsylvania

**Brandeberry, James E.** Associate Professor of Computer Science and Engineering; Chairman, Department of Computer Science B.S.E.E., 1961, M.S.E.E., 1963, Toledo; Ph.D., 1969, Marquette

**Brooks, Grover L.** Instructor in Library Administration and Reference Librarian, University Library B.S., 1965, Kent State; M.Ed., 1972, Wright State

**Brown, Herbert E.** Professor of Marketing B.S., 1961, M.S., 1962, Southern Illinois; Ph.D., 1969, Ohio State

**Brown, Herman L.** Instructor in Education B.S., 1954, Alabama A&M; B.S., 1960, Central State; M.Ed., 1962, Miami; Ed.S., 1968, Cincinnati



**Cambria, Elisa** Adjunct Assistant Professor of Spanish B.A., 1955, M.A., 1963, Hunter College; Ph.D., 1974, The City University of New York

**Camealy, John B.** Adjunct Associate Professor of Marketing B.S., 1951, Washington State; M.B.A., 1963, Colorado; Ph.D., 1968, University of Washington

**Camealy, Lois** Instructor in Education B.A., 1951, Washington State; M.A., 1963, Colorado

**Campbell, Clarence E.** Assistant Professor of Accountancy B.S., B.A., 1967, Tulsa; M.A., 1969, Missouri

**Campbell, Patrick E.** Associate Professor of Psychology B.A., 1965, M.S., 1966, Kansas State; Ph.D., 1968, Kansas

**Cannon, Emille T.** Assistant Professor of Modern Languages A.B., 1959, North Carolina (Greensboro); M.A., 1963, Tulane; Ph.D., 1972, Ohio State

**Cantelupe, Eugene B.** Professor of English and Art; Dean of the College of Liberal Arts B.A., 1942, Buffalo; M.F.A., 1950, Iowa; Ph.D., 1959, Washington University

**Cargan, Leonard** Associate Professor of Sociology B.A., 1958, M.A., 1963, Ph.D., 1968, Wayne State

**Carusone, Peter S.** Professor of Marketing and Department Chairman B.F.A., 1962, Cincinnati; M.B.A., 1965, Xavier; Ph.D., 1969, Ohio State

**Cary, Cecile W.** Associate Professor of English B.A., 1959, Macalester; M.A., 1963, Ph.D., 1969, Washington University

**Cary, Norman R.** Associate Professor of English B.A., 1958, Asbury; M.A., 1960, Arkansas; Ph.D., 1968, Wayne State

**Castellano, Joseph F.** Associate Professor of Accountancy; Acting Chairman of Accountancy B.S., 1964, M.S., 1965, Ph.D., 1971, St. Louis

**Cavally, Robert** Music Associate B.Mus., Cincinnati Conservatory; Graduate Study, Paris Conservatory

**Ceccio, Joseph** Assistant Professor of English B.A., 1967, Loyola; M.A., 1968, Ph.D., 1974, Illinois

**Chalt, Beatrice** Professor of Education; Associate Dean, College of Education, and Director, Division of Teacher Education B.A., 1936, Hunter; M.A., 1951, Michigan

**Chance, Larry L.** Assistant Professor of Education B.S., 1966, M.A., 1967, Ball State; Ph.D., 1973, Kansas

**Chao, Joseph T.** Associate Professor of Economics and Department Chairman B.A., 1947, Catholic University of Peiping; M.S., 1958, Southern Illinois; Ph.D., 1968, New York University

**Chmelir, Lynn K.** Instructor in Library Administration and Reference Librarian, University Library B.A., 1967, M.A., 1970, Illinois

**Clark, Robert L.** Associate Professor of Education B.S., 1949, Murray State; M.A., 1954, Kentucky; Ph.D., 1965, Southern Illinois

**Clarke, William L.** Adjunct Assistant Professor of Marketing B.S. B.A., 1958, Dayton; M.B.A., 1974, Xavier

**Clayton, Arlette** Instructor in French B.A., 1964, Akron; M.A., 1966, Kansas

**Cleary, Michael J.** Associate Professor of Quantitative Business Analysis B.S., 1961, Norwich; M.A., 1969, Ph.D., 1971, Nebraska

**Clemens, Jerome M.** Assistant Professor of Geography B.Sc., 1962, M.A., 1965, Ph.D., 1974, Ohio State

**Clingner, Phyllis** Instructor in Education B.S., 1969, Eastern Kentucky; M.Ed., 1973, Wright State

**Clough, Gregory** Music Associate B.Mus.Ed., 1966, Arkansas State; M.Mus., 1968, M.A., 1971, Arkansas

**Cobb, Joseph** Assistant Professor of Education B.S., 1958, Central State; M.Ed., 1969, Wright State; Ph.D., 1973, Miami

**Colbert, Charles** Adjunct Associate Professor of Engineering and Director of the Radiological Research Laboratory B.E.E., 1940, Minnesota

**Colle, Herbert A.** Associate Professor of Psychology B.S., 1965, Wisconsin; Ph.D., 1969, University of Washington

**Collie, William** Assistant Professor of Education B.A., 1965, Murray State; M.A., 1969, Ed.D., 1972, Kentucky

**Conley, Robert T.** Professor of Chemistry; Vice-President and Director of Planning and Development B.S., 1953, Seton Hall; M.A., 1955, Ph.D., 1957, Princeton

**Constable, Gordon K.** Associate Professor of Management; Acting Associate Dean, College of Business and Administration B.S., 1966, M.S., 1968, Purdue

**Conway, John B.** Assistant Professor of Biological Sciences B.S., 1964, M.S., 1967, San Diego State; M.P.H., 1970, Ph.D., 1973, Minnesota

**Cook, Lois A.** Assistant Professor of Chemistry; Assistant Dean of the College of Science and Engineering B.A., 1945, Wooster; M.S., 1948, Ohio State

**Coppage, William E.** Associate Professor of Mathematics B.A., 1955, Texas Agricultural and Mechanical; M.S., 1956, Ph.D., 1963, Ohio State

**Correale, Robert M.** Associate Professor of English and Department Chairman B.A., 1955, St. Bonaventure; M.A., 1960, Siena; Ph.D., 1971, Cincinnati

**Cox, Edward F.** Professor of History A.B., 1949, A.M., 1950, Ph.D., 1957, Indiana

**Cox, Myron K.** Associate Professor of Quantitative Business Analysis B.S., 1949, Virginia Polytechnic Institute; B.S., 1952, Pennsylvania State; M.Sc., 1957, Massachusetts Institute of Technology; E.E., 1963, North Carolina State; D.Sci., 1964, College of Applied Science (London)

**Crampton, George H.** Professor of Psychology and Department Chairman B.S., 1949, Washington State; M.S., 1950, Ph.D., 1954, Rochester

**Cross, Joanne** Instructor in Nursing R.N., B.S.N., 1955, Mercy College of Detroit; M.S.N., 1958, Catholic University

**Cross, Lawrence J.** Professor of Sociology B.A., 1943, M.A., 1951, Loyola; Ph.D., 1962, Pennsylvania

**Crowe, Shelby** Assistant Professor of Art Education B.A., 1958, Eastern Kentucky; M.Ed., 1961, Miami

**Crum, Larry A.** Associate Professor of Computer Science B.S., 1964, Ohio State; Ph.D., 1971, Marquette

**Cummings, Sue C.** Associate Professor of Chemistry B.A., 1963, Northwestern; M.S., 1965, Ph.D., 1968, Ohio State

**Custenborder, Catherine** Assistant Professor of Education, WOBC B.M.Ed., 1951, Mt. St. Joseph; M.Ed., 1965, Ph.D., 1968, Ohio

**Dailey, Kenneth I.** Professor of History A.B., 1938, St. Lawrence; Ph.D., 1957, Syracuse

**Daily, James M.** Associate Professor of Management B.S., 1954, M.B.A., 1958, Indiana; D.B.A., 1964, Colorado

**Daley, Robert** Instructor in Anatomy B.S., 1967, M.S., 1972, Ohio State

**Davis, Harry N.** Assistant Professor of Psychology B.A., 1968, Eckerd; M.S., 1971, Gainesville

**Davis, Henry W.** Assistant Professor of Computer Science B.A., 1959, Rice; M.A., 1961, Colorado; M.S., 1974, New York; Ph.D., 1975, Colorado



**Davis, William L.** *Instructor in Speech Communication* B.A., 1970, Carson-Newman; M.A., 1972, Wake Forest

**Deane, Donna** *Assistant Professor of Nursing* R.N., B.S.N., 1961, M.S.N., 1973, Ohio State

**Deju, Raul** *Associate Professor of Geology* B.S., 1966, Ph.D., 1969, New Mexico Institute of Mining and Technology

**Delamater, Jerome** *Instructor in Theatre Arts* B.A., 1964, Rutgers; M.A., 1971, Northwestern

**Demmy, W. Steven** *Assistant Professor of Quantitative Business Analysis* B.S., 1966, M.S., 1967, Ph.D., 1971, Ohio State

**Dexter, Lee** *Adjunct Instructor in Health, Physical Education, and Recreation* B.S., 1967, M.Ed., 1969, Miami

**Dillehay, James A.** *Associate Professor of Education; Associate Dean, College of Education, and Director, Division of Educational Leadership and Human Services* B.S., 1957, Dayton; M.Ed., 1960, Miami; Ed.S., 1968, Ph.D., 1969, Bowling Green

**Dittmar, Doris** *Associate Professor of Education* B.S., 1954, Oklahoma Baptist; M.S., 1965, Wichita State; Ed.D., 1969, Northern Illinois

**Dixon, Robert D.** *Professor of Computer Science* B.S., 1958, M.S., 1960, Ph.D., 1962, Ohio State

**Doherty, Peter A.** *Assistant Professor of Geography* B.Ed., 1963, de la Salle College, Manchester University (England); M.S., 1967, Florida State; Ph.D., 1974, Georgia

**Dolphin, Robert, Jr.** *Professor of Finance; Associate Dean of the School of Graduate Studies* B.S., 1960, M.B.A., 1961, Indiana; D.B.A., 1964, Michigan State

**Dombrowski, Joanne** *Assistant Professor of Mathematics* B.S., 1968, Marygrove; M.A., 1970, Ph.D., 1973, Purdue

**Dorn Jacob H.** *Professor of History; Director of University Honors Program* B.A., 1960, Wheaton; M.A., 1962, Ph.D., 1965, Oregon

**Dovel, Thomas D.** *Associate Professor of Marketing; Assistant Dean, College of Business and Administration* B.S., 1959, M.B.A., 1961, Miami

**Dreher, Barbara B.** *Associate Professor of Speech Communication* B.A., 1955, Connecticut; M.A., 1956, Illinois; Ph.D., 1966, Ohio State

**Dusko, Harold G.** *Adjunct Assistant Professor of Geography* B.S., 1964, Southern Illinois; M.B.A., 1970, Dayton

**Eakins, R. Gene** *Associate Professor of Speech Communication* B.A., 1951, B.S., 1953, Wittenberg; M.Ed., 1959, Kent State; Ph.D., 1966, Ohio State

**Earl, Robert D.** *Associate Professor of Education* B.S., 1954, Bluffton; M.A., 1958, Miami; Ed.D., 1967, Oklahoma

**Eiteman, Dean S.** *Professor of Accountancy* B.B.A., 1957, M.B.A., 1958, Michigan; Ph.D., 1967, Michigan State

**Emanuel, Marcia** *Adjunct Assistant Professor of Education* B.S., 1966, Central Michigan; M.S., Ed.S., 1970, Ed.D., 1972, Indiana

**Emanuel, S. Joseph, Jr.** *Associate Professor of Education* B.A., 1953, St. Meinrad; M.A., 1967, St. Francis; Ed.D., 1969, Indiana

**Engebretson, Darold** *Adjunct Associate Professor of Education; Director of Counseling Services* B.S., 1963, Luther Theological Seminary; B.A., 1966, M.Ed., 1967, Ph.D., 1969, Hawaii

**Evans, Anton N.** *Adjunct Assistant Professor of Marketing* B.S.I.M., 1963, Purdue; M.B.A., 1972, Xavier

**Evans, Thomas G.** *Associate Professor of Accountancy* B.S., 1965, Pennsylvania State; M.B.A., 1966, Ph.D., 1969, Michigan State

**Evans, William D.** *Assistant Professor of Business* B.S.Ed., 1956, Youngstown State; M.Ed., 1964, Miami

**Fabrycy, Mark Z.** *Professor of Economics* B.S., 1950, University of London; M.A., 1963, Ph.D., 1967, City University of New York

**Falco, Suzanne** *Assistant Professor of Nursing* B.S., 1969, M.S., 1971, Adelphi; Ph.D., 1975, New York

**Fehrenbach, Arthur J.** *Instructor in Accountancy* B.A., 1950, St. Norbert; M.S., 1966, Air Force Institute of Technology

**Fenton, William C.** *Professor of Music and Department Chairman* B.Mus., 1950, B.S., 1951, Cincinnati Conservatory; M.Ed., 1956, Miami; Ed.D., 1967, Cincinnati

**Fernandez, Eileen G.** *Instructor in Education* B.S., 1971, Tampa; M.Ed., 1972, Mississippi

**Foley, Arlene F.** *Assistant Professor of Biological Sciences* A.B., 1960, Anderson; M.A., 1963, Indiana

**Fortman, John J.** *Associate Professor of Chemistry* B.S., 1961, Dayton; Ph.D., 1965, Notre Dame

**Foster, Barbara Ford** *Instructor in Library Administration; Reference Librarian, University Library; Specialist, Black Cultural Resources Center* B.S., 1957, Central State; M.L.S., 1970, State University of New York (Buffalo)

**Foster, Barbara R.** *Associate Professor of Music* B.F.A., 1958, M.F.A., 1960, Georgia; M.Mus., 1963, D.M.A., 1970, Illinois

**Foster, Peggy** *Instructor in Nursing* B.S.N., 1965, M.S.N., 1975, Ohio State

**Fredrick, Stephen** *Instructor in Health, Physical Education, and Recreation* B.A., 1967, Wilmington; M.Ed., 1969, Ball State

**Frey, Diane E.** *Associate Professor of Education* B.S., 1966, Shippensburg; M.Ed., 1967, Ph.D., 1970, Illinois

**Friar, Billy W.** *Assistant Professor of Engineering* A.B., 1953, Berea; B.S., 1958, Virginia Polytechnic; M.Sc., 1959, Ph.D., 1970, Ohio State

**Fricke, Gerd H.** *Associate Professor of Mathematics* M.A., 1969, Kansas; Ph.D., 1971, Kent State

**Friedland, Eric Lewis** *Associate Professor of Religion; Sanders Scholar* B.A., 1960, Boston; M.A., 1962, Ph.D., 1967, Brandeis

**Fritz, H. Ira** *Associate Professor of Biological Chemistry; Program Director and Chairman of the Department of Biological Chemistry* B.S., 1960, Ph.D., 1964, California

**Frommeyer, L. Ronald** *Associate Professor of Library Administration; Dean of the University Library* B.A., 1957, Athenaeum of Ohio; M.S.L.S., 1965, Western Reserve

**Funderburk, Samuel C.** *Assistant Professor of Political Science* B.A., 1965, M.A., 1967, Florida; Ph.D., 1973, Iowa

**Funkhouser, James W.** *Clinical Professor of Pathology and Department Chairman* B.M.T., 1951, Dayton; M.S., 1953, M.D., 1957, Ohio State

**Furukawa, Chiyoko** *Instructor in Nursing* B.S.N., 1965, M.S.N., 1972, Colorado

**Gaddis, Hal** *Associate Professor of Education; Assistant Dean, College of Continuing and Community Education; Assistant Dean, College of Education* B.S., 1949, M.A., 1953, Ph.D., 1968, Ohio State

**Galvas, Patrick E.** *Instructor in Anatomy* B.S., 1970, M.S., 1972, Ball State

**Garber, Dennis D.** *Assistant Professor of Marketing* B.S., 1964, Marietta; M.B.A., 1969, Ohio State

**Gatton, Joseph** *Assistant Professor of Education; Director Piqua Resident Credit Center* B.S., 1957, M.Ed., 1960, Miami



**Gaw, Beverly A.** Assistant Professor of Speech Communication B.A., 1964, M.A., 1967, Miami

**George, Julia** Instructor in Nursing B.S., 1962, Cincinnati; M.S.N., 1973, Ohio State

**Germer, Ralph** Adjunct Assistant Professor of Education and Economics B.S., 1961, Ohio State; M.Ed., 1968, Wright State

**Ghosh, Subatra** Assistant Professor of Chemistry, WOBC B.S., 1961, Calcutta; M.S., 1963, Ph.D., 1966, Kalyani

**Gilley, Diane** Music Associate B.Mus., 1964, College Conservatory of Music, Cincinnati

**Glaser, Roger M.** Associate Professor of Physiology B.A., 1968, M.S., 1969, City University of New York; Ph.D., 1971, Ohio State

**Gleason, James J.** Associate Professor of English B.S., 1953, Dayton; M.A., 1957, Ph.D., 1969, Ohio State

**Goins, Barbara** Instructor in Education B.S., 1958, Kentucky State; M.Ed., 1974, Wright State

**Good, Elmer L.** Associate Professor of Social Work; Director of Social Work B.S., 1950, Albright; M.S.S., 1954, Bryn Mawr School of Social Work; Ph.D., 1975, University of Chicago

**Gorowara, Krishan K.** Professor of Mathematics and Department Chairman B.S., 1951, Lucknow; M.A., 1952, Ph.D., 1958, Delhi

**Goulet, Waldemar M.** Associate Professor of Finance B.A., 1963, Wayne State; M.B.A., 1966, Detroit, Ph.D., 1973, Michigan State

**Graham, Glenn T.** Associate Professor of Education B.S., 1962, M.A., 1965, Ed.D., 1966, Pittsburgh

**Gray, Rust F., Jr.** Associate Professor of Finance; Chairman, Department of Administrative Sciences and Finance B.A., 1960, DePauw; M.B.A., 1963, Miami; Ph.D., 1969, Illinois

**Gregor, C. Bryan** Professor of Geology B.A., 1951, M.A., 1954, Peterhouse (Cambridge); D.Sc., 1967, Utrecht State

**Griffith, Russel E.** Associate Professor of Anatomy B.S., 1947, Huntington; B.S.Ed., 1949, Miami; M.A., 1950, H.S.D., 1959, Indiana

**Guild, Benjamin** Faculty Associate of Biological Sciences B.S., 1968, M.S., 1974, Wright State

**Haber, Robert M.** Associate Professor of Mathematics B.S., 1953, M.A., 1955, Ph.D., 1958, Ohio State

**Haessler, Robert W.** Associate Professor of Quantitative Business Analysis B.S., 1962, M.S., 1963, M.B.A., 1964, Ph.D., 1968, Michigan

**Hageman, Donald** Music Associate Advanced piano study, Cleveland Institute of Music, Case-Western Reserve, Cincinnati, Dayton

**Hagen, Carol** Instructor in English, WOBC B.A., 1966, Ohio Northern; M.A., 1968, Ball State

**Haines, Clark** Music Associate B.Mus., 1935, Cincinnati; M.A., 1941, Ohio State

**Hall, Perry** Associate Professor of Education B.A., 1957, Fairmont; M.S., 1960, West Virginia

**Hankins, George T.** Associate Professor of Engineering B.S.E.E., 1955, U.S. Air Force Institute of Technology; M.S., 1961, Southern Methodist

**Hannen, Russell A.** Visiting Professor of Engineering B.S.M.E., 1953, Minnesota; M.S.E.E., 1957, Ph.D., 1960, Ohio State

**Hanson, Harvey M.** Professor of Physics B.S., 1952, Akron; M.Sc., 1954, Ph.D., 1956, Ohio State

**Harbage, Mary** Professor Emerita of Education B.A., 1931, M.A., 1949, Ohio State; Ed.D., 1963, Columbia

**Harden, O. Elizabeth** Professor of English; Executive Director of General University Services B.A., 1956, Western Kentucky State; M.A., 1958, Ph.D., 1965, Arkansas

**Harris, Frank** Associate Professor of Chemistry B.S., 1964, Missouri; M.S., 1966, Ph.D., 1968, Iowa

**Hartmann, Charles J.** Associate Professor of Law A.B., 1959, Washington University; J.D., 1966, Missouri; Missouri Bar, 1966

**Hawley, John** Instructor in Mathematics and Computer Science, WOBC B.S., 1971, Defiance; M.S., 1974, Wright State

**Hay, Robert J.** Associate Professor of Microbiology B.S., 1960, M.S., 1961, Manitoba; Ph.D., 1964, Glasgow

**Heeren, Lynn** Assistant Professor of Education B.A., 1962, Drake; M.A., 1969, South Dakota; Ph.D., 1974, Wyoming

**Hemmer, Edgar H.** Associate Professor of Finance B.S., 1946, U.S. Naval Academy; B.S.A.E., 1954, U.S. Naval Postgraduate School; M.S.I.E., 1955, M.S., 1969, Ph.D., 1971, Purdue

**Hemsky, Joseph W.** Associate Professor of Physics B.S., 1958, Missouri School of Mines and Metallurgy; Ph.D., 1966, Purdue

**Hess, George G.** Associate Professor of Chemistry B.S., 1959, Juniata; Ph.D., 1964, Pennsylvania State

**Hetrick, Connie** Instructor in Nursing B.S.N., 1966, M.S.N., 1970, Cincinnati

**Hill, Joseph F.** Instructor in Theatre Arts B.A., 1967, M.A., 1973, Ohio State

**Hoehn, Lilburn** Professor of Education B.S., 1954, M.Ed., 1963, Missouri; Ph.D., 1967, Michigan State

**Holdcraft, Carol** Instructor in Nursing B.S.N., 1971, M.S.N., 1973, Cincinnati

**Holmes, Lela** Librarian, Western Ohio Branch Campus B.A., 1966, St. Francis; M.A., 1967, Indiana

**Honda, Shigeru I.** Professor of Biological Sciences B.S., 1950, California Institute of Technology; M.S., 1952, Ph.D., 1954, Wisconsin

**Horn, Pierre L.** Assistant Professor of French B.A., 1964, Brooklyn College; M.A., 1965, Ph.D., 1974, Columbia

**Hough, Ronald F.** Associate Professor of Philosophy and Department Chairman B.S., 1961, Dayton; M.A., 1962, Miami; Ph.D., 1970, Ohio State

**Howard, Lillie P.** Assistant Professor of English B.A., 1971, South Alabama; M.A., 1972, Ph.D., 1975, New Mexico

**Hower, Robert K.** Instructor in Art B.A., 1968, Middlebury College

**Hubschman, Jerry H.** Professor of Biological Sciences; Associate Provost A.A.S., 1956, State University of New York; B.S., 1959, Ph.D., 1962, Ohio State

**Huckins, Wesley** Professor of Education B.S., 1953, Black Hills State; M.A., 1955, Ed.D., 1963, Wyoming

**Hudson, Carol Sue** Assistant Professor of Biological Sciences, WOBC B.A., 1963, M.A., 1965, Southern Illinois; Ph.D., 1972, Texas (Austin)

**Hughes, James M.** Associate Professor of English B.A., 1961, Harvard; M.A., 1962, Ph.D., 1969, Pennsylvania

**Hussman, Lawrence E.** Associate Professor of English B.A., 1954, Dayton; M.A., 1957, Ed.D., 1964, Michigan

**Hutchcraft, Gilbert R.** Assistant Professor of Education B.A., 1963, M.S., 1969, Ed.D., 1970, Indiana

**Hutchings, Brian L.** Professor of Biological Sciences; Dean of the College of Science and Engineering B.S., 1938, Brigham Young; M.S., 1940, Ph.D., 1942, Wisconsin



**Hutzel, Willard J.** *Associate Professor of Political Science; Dean of the College of Continuing and Community Education* B.A., 1959, Bowling Green; Ph.D., 1966, Maryland

**Iddings, Roger G.** *Professor of Education; Dean of the College of Education* B.A., 1952, Hanover; M.Ed., 1960, Wayne State; Ph.D., 1966, Ohio State

**Imundo, Louis V.** *Associate Professor of Management* B.S.I.E., 1964, Long Island; M.B.A., 1966, Adelphi; D.B.A., 1971, Oklahoma

**Islam, A.K.M. Aminul** *Associate Professor of Anthropology* B.A., 1952, M.A., 1954, Dacca; M.A., 1961, London; M.A., 1964, Toronto; Ph.D., 1969, McGill

**Jankowski, Francis J.** *Professor of Engineering* B.S.C.E., 1943, Union; M.S., 1947, Sc.D., 1949, Cincinnati

**Jarrell, Howard R.** *Assistant Professor of Library Administration; Senior Reference Librarian, University Library* B.S., 1955, Dayton; M.S.L.S., 1958, Western Reserve

**Jefford, Jane E.** *Instructor in Health, Physical Education, and Recreation* B.A., 1969, Evansville; M.S., 1972, Indiana

**Jenkins, Alyce** *Assistant Professor of Education* B.S., 1957, Alabama A & M; M.Ed., 1968, Kent State

**Johns, F. Edwin** *Instructor in Library Administration; Head of Selection and Bibliography, University Library* B.S., 1962, Virginia Commonwealth; M.L.S., 1970, Peabody

**Johnson, Douglas** *Adjunct Assistant Professor of Education, WOBC* B.A., 1960, M.A., 1965, Humboldt State; Ph.D., 1972, Indiana

**Johnson, Melvin A. Jr.,** *Professor of Physiology* B.S., 1950, Central State; M.S., 1955, Miami; Ph.D., 1969, Jefferson Medical

**Johnson, Sarah** *Instructor in Music* B.Mus., 1956, Michigan State; M.A., 1970, Kent State

**Jones, Paul R.** *Music Associate* B.M.E., B.M., 1937, Otterbein; M.Mus., 1940, Michigan; Graduate study, Florence, Italy

**Jordan, Bruce** *Music Associate* B.Mus., 1966, Miami; M.Mus., 1969, Indiana

**Kader, Ahmad** *Assistant Professor of Economics, WOBC and PRCC* B.S., 1964, Sophia (Bulgaria); M.S., 1968, West Virginia; Ph.D., 1974, West Virginia

**Kane, James J.** *Associate Professor of Chemistry* B.S., 1954, Upsala; Ph.D., 1960, Ohio State

**Kantor, George J.** *Associate Professor of Biological Sciences* B.A., 1958, Slippery Rock State; M.S., 1962, New Mexico Highlands; Ph.D., 1967, Pennsylvania State

**Karl, David J.** *Professor of Chemistry and Department Chairman* B.S., 1956, Providence; Ph.D., 1960, Michigan State

**Katz, Paul** *Music Associate* B.Mus., 1931, Cleveland Institute of Music; D.Mus., 1961, Dayton and Central State

**Katz, Phyllis** *Music Associate* Advanced piano study, Cincinnati Conservatory of Music

**Kauder, Emanuel** *Professor of Pediatrics and Department Chairman* B.A., 1953, Brooklyn; M.D., 1957, New York University

**Kauffman, Bryon** *Assistant Professor of Music, WOBC and PRCC* B.A., 1960, Goshen; M.S., 1969, Illinois

**Kegerreis, Robert J.** *Professor of Marketing; President* B.A., B.S., 1943, M.B.A., 1947, Ph.D., 1968, Ohio State

**Keith, John** *Music Associate* B.Mus., 1965, Oberlin; M.Mus., 1971, Cincinnati College-Conservatory of Music

**Keller, Harold W.** *Assistant Professor of Biological Sciences* B.A., 1960, Kansas Wesleyan; M.A., 1963, Kansas; Ph.D., 1971, Iowa

**Kelly, John** *Instructor in Sociology, WOBC* B.A., 1966, St. Joseph's; M.A.T., 1968, Indiana

**Kemp, Charlotte** *Music Associate* B.A., 1945, Western College; M.Mus., 1946, Cincinnati Conservatory of Music

**King Cynthia** *Associate Professor of Classics* B.A., 1960, Goucher; Ph.D., 1969, North Carolina

**King, Ruth** *Assistant Professor of Education* B.S., 1958, Wayne State; M.A., 1967, New York

**King, William J.** *Associate Professor of Classics and Department Chairman* A.B., 1960, Ph.D., 1970, North Carolina

**Kinney, Marjorie A.** *Assistant Professor of Nursing* B.S., 1948, Ohio State; M.A., 1970, New York University

**Kiser, Kimmerly H.** *Assistant Professor of Art* B.F.A., 1966, Philadelphia College of Art; M.F.A., 1969, Indiana

**Klein, Helen A.** *Associate Professor of Psychology* B.S., 1964, Michigan State; M.S., 1967, Ph.D., 1969, Pittsburgh

**Klein, Sherwin J.** *Professor of Psychology* A.B., 1940, Western Reserve; M.A., 1947, Ph.D., 1951, Pennsylvania

**Kmetec, Emil** *Professor of Biological Chemistry* Ph.B., 1948, M.S., 1953, Chicago; Ph.D., 1957, Wisconsin

**Knight, Kenneth L.** *Adjunct Instructor in Health, Physical Education, and Recreation* B.S., 1964, M.Ed., 1966, Miami

**Koch, Elenore** *Adjunct Assistant Professor of Education; Executive Director of Student Administrative Services* B.S., 1951, Ohio; M.S., 1962, Miami

**Kochan, Ivan** *Professor of Microbiology* B.S., 1944, University of Lwiw; M.S., 1955, Manitoba; Ph.D., 1958, Stanford

**Koebnick, Thomas** *Assistant Professor of Sociology* B.A., 1953, Pembroke; M.A., 1955, Brown; Ph.D., 1966, Minnesota

**Koerlin, Ernest F.** *Associate Professor of Art* B.F.A., 1961, Minneapolis School of Art; M.F.A., 1965, Yale

**Kohler, Joseph** *Associate Professor of Computer Science* B.S., 1957, Ohio State; Ph.D., 1962, California Institute of Technology

**Kolmen, Samuel N.** *Professor of Physiology, Program Director, and Department Chairman* B.A., 1954, Texas-Austin; Ph.D., 1957, Texas-Galveston

**Komasara, Diane F.** *Instructor in Library Administration and Bibliographer, University Library* B.A., 1971, A.M.L.S., Michigan

**Korenbaum, Myrtle** *Associate Professor of Sociology* A.B., 1953, Pembroke; M.A., 1955, Brown; Ph.D., 1966, Minnesota

**Kotecha, Kanti C.** *Associate Professor of Political Science* Barrister at Law, 1960, Middle Temple (London); M.A., 1965, Ph.D., 1970, Tufts

**Kramer, Kenneth F.** *Associate Professor of Geology* B.S., 1961, Rice; Ph.D., 1967, Florida State

**Kreiser, Larry** *Assistant Professor of Accountancy* B.S., 1963, Bowling Green; M.B.A., 1965, Indiana; C.P.A.

**Kruger, Brian M.** *Associate Professor of Psychology* B.A., 1965, Wartburg; M.A., 1967, Ph.D., 1969, Iowa

**Kumar, Rishi** *Assistant Professor of Economics* B.A., 1954, Delhi; M.A., 1966, Vanderbilt; Ph.D., 1972, Wayne State

**Kuntzman, Andrew J.** *Assistant Professor of Anatomy* B.S., 1961, M.S., 1963, Ph.D., 1970, Ohio State

**Lai, Andrew W.** *Associate Professor of Quantitative Business Analysis* B.A., 1961, Chung Hsing; M.A., 1964, Alabama; Ph.D., 1974, Ohio State

**Lanford, Horace W., Jr.** *Professor of Management* B.B.A., 1948, Georgia; M.A., 1950, George Washington; Ph.D., 1964, Ohio State

**Larkins, James E.** *Associate Professor of Modern Languages* B.A., 1955, Miami; M.A., 1961, Ph.D., 1966, Ohio State



**Larson, Robert J.** Assistant Professor of Geology B.S., 1965, Superior State; M.S., 1968, Michigan Technological

**Laws, Francis** Instructor in Music B.Mus., 1965, B.Sc., 1966, Texas A & I; M.Ed., 1967, Houston

**Leach, C. David** Instructor in Art B.A., 1968, Bucknell; M.F.A., 1973, Ohio

**Lee, Jack C.** Associate Professor of Mathematics B.A., 1964, National Taiwan; M.A., 1969, Rochester; Ph.D., 1972, State University of New York (Buffalo)

**Leinbaugh, Dennis W.** Assistant Professor of Computer Science B.A., 1968, M.S., 1972, Ph.D., 1975, Iowa

**Leonard, Albert J.** Instructor in Education B.B.A., 1966, Manhattan; M.S., 1971, Syracuse

**Leonard, Mary Kathryn** Faculty Associate of Nursing B.S., 1970, Syracuse

**Levine, Edward M.** Associate Professor of Art and Department Chairman B.A., 1957, Yale; M.A., 1963, Ph.D., 1975, New York

**Levitan, Dee** Instructor in Music B.Sc., 1948, M.Sc., 1949, Juilliard

**Lewkowicz, Raymond E.** Associate Professor of Mathematics B.A., 1952, M.A., 1956, Ph.D., 1962, Michigan

**Liaugminas, Tatiana** Instructor in French B.A., 1966, M.A., 1968, University of Illinois

**Lieberman, Ilaire B.** Assistant Professor of Social Work B.A., 1948, Misericordia; M.S.W., 1958, Pennsylvania

**Lindower, John O.** Professor of Pharmacology and Department Chairman A.B., 1958, Ashland; M.D., 1955, Ph.D., 1968, Ohio State

**Ling, Samuel C.** Associate Professor of Physics B.S., 1951, National Taiwan; M.S., 1953, Baylor; Ph.D., 1969, Ohio State

**Listerman, Thomas W.** Associate Professor of Physics B.S., 1959, Xavier; M.S., 1962, Ph.D., 1965, Ohio

**Lobo, Marie** Instructor in Nursing B.S.N., 1971, Ohio State; M.N., 1975, Washington

**Longenecker, Douglas P.** Professor of Family Practice and Department Chairman M.D., 1964, Cincinnati

**Loschert, Jack** Instructor in Education B.A., 1966, Ohio State; M.Ed., 1969, Xavier

**Love, Randolph** Music Associate B.Mus., 1972, Ohio State; M.Mus., 1974, Cincinnati

**Low, Leone Y.** Associate Professor of Mathematics B.S., 1956, M.S., 1958, Ph.D., 1961, Oklahoma State

**Low, Marc E.** Associate Professor of Mathematics; Assistant Dean, College of Science and Engineering B.S., 1958, M.S., 1960, Oklahoma State; Ph.D., 1965, Illinois

**Lucas, James** Associate Professor of Biological Sciences B.S., 1954, Marietta; M.S., 1967, Cincinnati

**Lynch, Patricia L.** Instructor in Speech Communication B.A., 1970, Butler; M.A., 1971, Bowling Green

**Lyon, Bruce W.** Adjunct Assistant Professor of Education; Dean of Students B.S., 1962, Northwestern; M.A., 1964, Ph.D., 1969, Ohio State

**Macaulay, Thomas** Assistant Professor of Art B.A., 1968, St. Olaf; M.A., 1970, M.F.A., 1971, Iowa

**McCarty, Richard L.** Assistant Professor of Marketing B.S.B.A., 1958, Denver; M.B.A., 1969, Inter-American (Puerto Rico)

**McCormick, William S.** Associate Professor of Engineering B.S.E.E., 1961, Marquette; M.S., 1963, Ph.D., 1967, Wisconsin

**McFarland, Charles R.** Associate Professor of Microbiology B.S., 1949, Otterbein; M.S., 1950, Ohio State; Ph.D., 1967, West Virginia State

**McGrath, William J.** Associate Professor of Law B.B.A., 1951, Cincinnati; M.B.A., 1956, Xavier; J.D., 1961, Cincinnati

**MacKinney, Arthur C.** Professor of Psychology and Management; Dean of the School of Graduate Studies B.A., 1951, William Jewell; M.A., 1953, Ph.D., 1955, Minnesota

**McPeak, Clifford T.** Assistant Professor of Health, Physical Education, and Recreation B.S., 1964, M.Ed., 1965, Miami

**Magill, Paul C.** Assistant Professor of Music B.S., 1956, Ohio State; M.Ed., 1962, Miami

**Malone, Philip G.** Associate Professor of Geology B.A., 1962, Louisville; A.M., 1964, Indiana; Ph.D., 1968, Case-Western Reserve

**Maneri, Carl C.** Associate Professor of Mathematics B.S., 1954, Case Institute of Technology; Ph.D., 1959, Ohio State

**Marable, June** Assistant Professor of Education B.S., 1948, Central State; M.S., 1965, Dayton; Ph.D., 1974, Miami

**Martin, John S.** Professor of Physics B.Sc., 1950, M.Sc., 1952, Natal; D.Phil., 1957, Oxford

**Martin, Martin D.** Adjunct Associate Professor of Marketing B.S., 1958, Louisiana State; M.B.A., 1966, Ph.D., 1971, Oklahoma

**Massey, George** Music Associate B.Mus. Ed., 1969, Jacksonville; M.Mus., 1973, Cincinnati

**Matczynski, Thomas J.** Assistant Professor of Education; Director, Graduate Studies in Education B.S., 1964, M.S., 1968, Dayton; Ph.D., 1971, Ohio

**Mathies, Bonnie K.** Instructor in Library and Communication Science B.Ed., 1964, M.Ed., 1968, Toledo

**Matual, David M.** Assistant Professor of Modern Languages B.A., 1966, Illinois State; M.A., 1968, Ph.D., 1971, Wisconsin

**Mazumdar, Tapas** Associate Professor of Mathematics B.S., 1954, M.S., 1957, Calcutta; D.I.C., 1963, Imperial College, London; M.S., 1967, Ph.D., 1971, Illinois

**Mechlin, Katherine A.** Instructor in Physiology B.S., 1969, M.S., 1972, Ohio State

**Meike, Gerald** Associate Professor of Mathematics B.S., 1952, Aquinas; M.A., 1954, Detroit; Ph.D., 1969, Michigan

**Melamed, Leslie** Assistant Professor of Psychology B.S., 1966, M.S., 1969, University of the Witwatersrand; Ph.D., 1973, Southern Illinois

**Merriam, Paul G.** Associate Professor of History; Assistant Dean, College of Liberal Arts A.B., 1961, San Diego State; M.A., 1963, Ph.D., 1971, Oregon

**Middendorf, Joseph A.** Adjunct Assistant Professor of Marketing B.S., 1963, M.B.A., 1974, Xavier

**Mielke, James H.** Assistant Professor of Anthropology B.A., 1969, Utah; M.A., 1971, Ph.D., 1974, Massachusetts

**Milheim, Robert P.** University Professor B.S., 1939, Pennsylvania State Teachers; M.A., 1948, Ed.D., 1955, Northwestern

**Miller, Roger** Music Associate A.B., 1967, B.Mus., 1970, M.Mus., 1972, Miami

**Molitierno, Arthur A.** Instructor in English, PRCC and WOBC B.A., 1964, Villanova; M.A., 1966, Dayton

**Moore, Perry A.** Assistant Professor of Political Science B.A., 1968, M.A., 1970, Midwestern; Ph.D., 1974, Texas

**Morgan, Robert A.** Assistant Professor of Biological Sciences B.A., 1965, M.A., 1966, North Texas State; Ph.D., 1973, Cornell

**Moriarty, Joseph F.** Instructor in Classics B.A., 1964, Holy Cross; M.A., 1966, Indiana

**Moss, L. Howard III** Associate Professor of Microbiology B.S., 1960, M.S., 1961, Tennessee; Ph.D., 1967, Tennessee Medical Units

**Moss, Martin K.** Associate Professor of Psychology B.A., 1964, New York; M.A., 1967, Hofstra; Ph.D., 1969, Kansas State



**Motes, Martin** Assistant Professor of English, WOBC B.A., 1967, M.A., 1968, University of Miami; Ph.D., 1973, Miami University

**Murray, Ellen M.** Assistant Professor of Sociology B.A., 1952, Berea; M.A., 1967, Ohio State

**Murray, John V.** Professor of Management; Vice-President and Vice-Provost for Academic Affairs B.G.E., 1954, Omaha; M.S., 1957, D.B.A., 1967, Colorado

**Must, Raymond L.** Associate Professor of Art B.A., 1950, Michigan; M.A., 1951, Ohio State

**Myron, John F.** Associate Professor of Management, WOBC and PRCC B.S., 1945, U.S. Military Academy; M.B.A., 1954, Harvard

**Nduaguba, John C.** Assistant Professor of Biological Chemistry B.S., 1965, M.A., 1967, California (Davis); Ph.D., 1970, Queen's

**Neve, Herbert T.** Assistant Professor of Religion B.A., 1953, Pacific Lutheran; B.Th., 1957, Luther Seminary; Th.D., 1959, University of Heidelberg (Germany)

**Nicholson, David P.** Professor of Medicine M.B., B.S., 1945, M.D., 1947, London

**Nicholson, Edward A.** Professor of Management B.S., 1963, M.A., 1966, Ph.D., 1970, Ohio State

**Nickerson, Corliss A.** Assistant Professor of Theatre Arts B.F.A., 1969, Montana; M.F.A., 1972, Stanford

**Noel, James A.** Professor of Geology B.A., 1949, Lehigh; M.A., 1951, Dartmouth; Ph.D., 1956, Indiana

**Nolan, Patrick B.** Assistant Professor of Library Administration; Head of Archives and Special Collections, University Library B.A., 1964, M.A., 1967, Ph.D., 1971, Minnesota

**Norris, Billy E.** Associate Professor of Biological Sciences, WOBC B.S., 1960, M.S., 1965, Ed.D., 1970, Ball State

**Nussbaum, Noel S.** Associate Professor of Physiology B.A., 1956, Brooklyn; M.A., 1958, Williams; Ph.D., 1964, Yale

**O'Boyle, Peter** Assistant Professor of Art Education B.A., 1966, New Mexico; M.S., 1968, Ph.D., 1972, Oregon

**Olds, Patricia** Assistant Professor of Music; Director of International Programs B.Mus., 1950, M.Mus., 1951, College of Music (Cincinnati); M.A., 1962, Indiana

**Osborn, Robert N.** Assistant Professor of Theatre Arts B.F.A., 1969, M.F.A., 1975, Carnegie-Mellon

**Oshiro, Kenji K.** Associate Professor of Geography B.S., 1961, Utah State; M.A., 1965, Ph.D., 1972, University of Washington

**Owen, Luisa** Instructor in Art Education B.S., 1970, M.Ed., 1971, Wright State

**Pabst, Donald F.** Professor of Accountancy B.B.A., 1957, Cincinnati; M.B.A., 1958, Ph.D., 1961, Ohio State; C.P.A., 1960

**Pacernick, Gary B.** Associate Professor of English B.A., 1963, Michigan; M.A., 1966, Minnesota; Ph.D., 1969, Arizona

**Page, Richard A.** Associate Professor of Psychology A.B., 1965, Hamilton; Ph.D., 1970, Rochester

**Palmer, Raymond** Assistant Professor of Library Administration; Medical and Health Sciences Librarian, University Library B.A., 1961, Louisville; M.S.L.S., 1966, Kentucky

**Paris, Faye** Instructor in Biochemistry B.S., 1953, Georgia; M.P.H., 1959, California

**Park, John H.** Associate Professor of Modern Languages B.A., 1950, Emory; M.A., 1953, University of the Americas (Mexico); Ph.D., 1960, Indiana

**Park, Won Joon** Associate Professor of Mathematics B.S., 1957, Seoul National; M.A., 1966, California; Ph.D., 1969, Minnesota

**Payne, Tyrone** Associate Professor of Education B.S., 1962, M.A., 1966, Ball State; Ph.D., 1970, Indiana

**Peck, Yvette** Instructor in Health, Physical Education, and Recreation B.S., 1962, State University College (Brockport); M.S., 1973, Indiana

**Petersohn, Richard** Assistant Professor of Education B.A., 1951, M.S.Ed., 1953, Hofstra; M.S.T., 1962, Antioch; NSF-AYI, 1963, Harvard; Ed.D., 1974, Georgia

**Phillips, Chandler** Assistant Professor of Physiology and Engineering A.B., 1965, Stanford; M.D., 1969, Southern California

**Picciano, Thomas B.** Instructor in Accountancy B.B.A., 1970, Kent State; M.B.A., 1973, Wright State; C.P.A., 1973

**Piediscalzi, Nicholas** Professor of Religion and Department Chairman B.A., 1952, Grinnell; B.D., 1956, Yale; Ph.D., 1965, Boston University

**Pirie, Phyllis** Instructor in Anthropology B.A., 1971, M.A., 1971, Case-Western Reserve; Ph.D., 1976, Ohio State

**Pitzer, Lawrence** Music Associate B.F.A., 1969, Miami

**Poff, David G.** Associate Professor of Music B.S., 1961, Lebanon Valley; M.Mus., 1962, Ph.D., 1970, Michigan

**Pollitt, Pamela** Assistant Professor of Library Administration; Assistant Dean of the University Library for Technical Services B.S., 1966, Bowling Green; M.A., 1968, Cincinnati; M.S.L.S., 1970, Case-Western Reserve

**Poplawski, Claytrice** Instructor in Nursing B.S., 1948, Southern California; M.S.N., 1958, Catholic

**Power, Robert J.** Associate Professor of Philosophy B.A., 1959, North Dakota; M.A., 1960, Ph.D., 1965, Emory

**Premus, Robert** Assistant Professor of Economics B.A., 1963, Bob Jones; M.A., 1968, Ohio

**Pruett, Robert E.** Associate Professor of Speech Communication and Department Chairman B.S., 1959, Notre Dame; M.A., 1962, Northern Illinois; Ph.D., 1970, Bowling Green; 1971, University of Tennessee Space Institute; 1973, NATO Advanced Study Institute

**Pushkar, Paul** Associate Professor of Geology B.S., 1960, Manitoba; Ph.D., 1966, California

**Racevskis, Karlis** Associate Professor of Modern Languages B.A., 1961, M.A., 1966, City College, City University of New York; Ph.D., 1971, Columbia

**Rasor, Sharon** Music Associate B. Mus., 1968, College Conservatory of Music, Cincinnati

**Ray, John R.** Associate Professor of Geography and Department Chairman A.B., 1954, M.A., 1955, Indiana; Ph.D., 1972, Ohio State

**Rebenstorff, Kim D.** Instructor in Accountancy B.S., 1973, M.B.A., 1974, Northern Illinois

**Reece, Robert D.** Associate Professor of Religion and Medical Ethics B.A., 1961, Baylor; B.D., 1964, Southern Baptist Theological Seminary; M.A., 1966, M.Phil., 1968, Ph.D., 1969, Yale

**Reid, Susan** Assistant Professor of Social Work Certificate, 1963, Sorbonne; B.A., 1965, Cornell; M.S.W., 1968, Pennsylvania

**Renas, Stephen M.** Associate Professor of Economics A.B., 1968, M.A., 1969, Ph.D., 1971, Georgia State

**Richard, Benjamin H.** Associate Professor of Geology B.S., 1958, Virginia Polytechnic; M.A., 1961, Ph.D., 1966, Indiana

**Richards, Donald E.** Assistant Professor of Education B.A., 1949, Miami; M.Ed., 1952, University of Washington; Ph.D., 1970, Ohio State



**Rickert, William E.** Assistant Professor of Speech Communication B.S., 1968, Illinois Wesleyan; M.A., 1971, Central Michigan; Ph.D., 1974, Michigan

**Rife, Ronald E.** Instructor in Mathematics, WOBC B.S., 1967, Manchester; M.S., 1969, Michigan State

**Riggs, Louvancey Dewitt** Instructor in Speech Communication B.S., 1972, Fort Valley State; M.A., 1974, Georgia

**Ritchie, Malcolm L.** Professor of Engineering A.B., 1948, M.A., 1951, California; Ph.D., 1953, Illinois

**Roach, Margaret A.** Assistant Professor of Library Administration; Reference Librarian, University Library B.A., 1959, Notre Dame College; M.S., 1962, Duquesne; M.L.S., 1965, Pittsburgh

**Rodgers, Julane** Music Associate B.Mus., 1964, Lewis and Clark; M.Mus., 1969, D.M.A., 1971, Oregon

**Roehm, Harper A.** Associate Professor of Accountancy B.A., 1957, DePauw; M.B.A., 1963, Indiana; D.B.A., 1972, Florida State; C.P.A., 1964

**Roeth, Keith** Faculty Associate of Biological Sciences B.S.E.D., 1970, Ohio State; M.S., 1974, Wright State

**Rolsten, Robert F.** Professor of Engineering B.S., 1948, Capital; Ph.D., 1955, Ohio State

**Ross, Charles B.** Assistant Professor of Computer Science B.S., 1957, Villanova; M.S., 1963, Ph.D., 1969, Purdue

**Rossmiller, John D.** Associate Professor of Biological Sciences B.S., 1956, M.S., 1962, Ph.D., 1965, Wisconsin

**Sachs, David** Professor of Mathematics B.S., 1955, M.S., 1957, Ph.D., 1960, Illinois Institute of Technology

**Sammons, Martha C.** Assistant Professor of English B.A., 1971, Wheaton; Ph.D., 1974, North Carolina

**Sanderson, Ellen Flerlage** Assistant Professor of Political Science B.A., 1967, M.A., 1968, Ph.D., 1971, Illinois

**Sava, Samuel** Adjunct Professor of Education B.S., 1953, Slippery Rock; M.S., 1955, Westminster; Ed.D., 1964, American

**Savells, Jerald** Associate Professor of Sociology and Acting Chairman of Sociology, Anthropology, and Social Work B.S., 1963, Murray State; M.A., 1969, Ph.D., 1971, Louisiana State

**Sayer, James E.** Assistant Professor of Speech Communication B.S. Ed., 1968, Northern Arizona; M.A., 1969, Arizona; Ph.D., 1974, Bowling Green

**Schaefer, Donald J.** Associate Professor of Computer Science and Mathematics A.B., 1957, San Jose State; M.A., 1958, Ph.D., 1963, Ohio State

**Schmalberg, Aaron** Assistant Professor of Library and Communication Science B.A., 1949, New York; M.S.L.S., 1953, New York State; M.A., 1959, A.M.L.S., 1962, Michigan

**Schmidt, Ronald G.** Associate Professor of Geology and Department Chairman A.B., 1953, M.A., 1955, Columbia; Ph.D., 1957, Cincinnati

**Schricket, Clyde C.** Associate Professor of Management A.B., 1949, Hanover; M.B.A., 1959, Xavier; Ph.D., 1966, Ohio State

**Schultz, Jerome** Assistant Professor of Education B.A., 1968, M.A., 1970, Ohio State; Ph.D., 1974, Boston College

**Schumacher, Ruth** Assistant Professor of Education B.S., 1967, Northern Illinois; M.Ed., 1969, Ph.D., 1972, Illinois

**Scott, Jane N.** Assistant Professor of Anatomy A.B., 1966, Transylvania; M.S., 1968, Ph.D., 1971, Kentucky

**Scutt, Suzanne** Music Associate B.Mus., 1951, Cincinnati Conservatory; M.Mus., 1953, Illinois

**Seiger, Marvin B.** Associate Professor of Biological Sciences B.S., 1950, Duquesne; M.A., 1953, Texas; M.A., 1959, California (Los Angeles); Ph.D., 1962, Toronto

**Servé, M. Paul** Professor of Chemistry B.S., 1961, Ph.D., 1964, Notre Dame

**Seybold, Paul G.** Associate Professor of Chemistry B.Engr. Physics, 1960, Cornell; Ph.D., 1968, Harvard

**Shatsby, Christopher L.** Assistant Professor of Art Education B.S., 1957, M.Ed., 1964, New Mexico Western

**Shaw, Paul C.** Assistant Professor of Political Science; Acting Director of Urban Studies B.A., 1962, Morris Harvey; M.A., 1964, Michigan State; Ph.D., 1973, Pennsylvania State

**Shearer, Anne B.** Adjunct Assistant Professor of Education B.A., 1958, Howard; M.A., 1964, Atlanta; Ph.D., 1970, Ohio

**Shupe, Lewis K.** Associate Professor of Speech Communication B.S., 1957, M.S., 1960, Utah; Ph.D., 1968, SUNY, Buffalo

**Sibbison, Robert B.** Assistant Professor of Art B.F.A., 1961, Colorado; M.F.A., 1968, Cranbrook Academy of Art

**Siegal, Harvey** Assistant Professor of Sociology B.A., 1967, M.A., 1969, City College of New York; M.Phil., 1972, Ph.D., 1974, Yale

**Sievers, Robert E.** Adjunct Professor of Chemistry B.S., 1956, Tulsa; M.S., 1958, Ph.D., 1960, Illinois

**Silverman, Harold** Professor of Education B.A., 1941, Queens; B.S., 1951, M.A., 1950, Ed.D., 1952, Washington University

**Silverman, Robert** Associate Professor of Mathematics B.S., 1951, M.A., 1954, Ph.D., 1958, Ohio State

**Simpson, H. Mitchell** Associate Professor of Physics A.B., 1964, Pfeiffer; Ph.D., 1968, Clemson

**Sims, J. Taylor** Professor of Marketing B.S., 1961, M.B.A., 1963, Texas Tech; Ph.D., 1970, Illinois

**Sirkin, R. Mark** Assistant Professor of Political Science B.A., 1965, Maryland; M.A., 1967, Ph.D., 1971, Pennsylvania State

**Skinner, Gordon B.** Professor of Chemistry B.S., 1947, M.S., 1949, Manitoba; Ph.D., 1951, Ohio State

**Smith, Alphonso L.** Assistant Professor of Computer Science and Mathematics B.S., 1959, M.S., 1964, Ohio State

**Smith, Michael J.** Associate Professor of Chemistry B.A., 1967, Southern Illinois; M.A., 1969, Ph.D., 1972, Missouri

**Smith, Reed M.** Professor of Political Science A.B., 1949, Oberlin; M.A., 1953, Columbia; M.A., 1954, Pennsylvania State; Ph.D., 1961, Columbia

**Snyder, Carol L.** Senior Instructor in English, Celina B.S., 1969, Ohio Northern; M.A., 1970, Bowling Green

**Soh, Jin W.** Assistant Professor of Computer Science B.S.E.E., 1969, M.S., 1971, Iowa; Ph.D., 1974, Northwestern

**Spalding, George R.** Assistant Professor of Engineering B.S., 1953, M.S., 1955, Ph.D., 1974, Lehigh

**Spanier, Edward J.** Adjunct Associate Professor of Chemistry; Associate Dean for Administration, School of Medicine B.A., 1959, LaSalle; Ph.D., 1964, Pennsylvania

**Spetter, Allan** Associate Professor of History A.B., 1960, M.A., 1961, Ph.D., 1966, Rutgers

**Spiegel, Andrew P.** Professor of History; Executive Vice-President and Provost and Treasurer B.A., 1948, Denison; LL.B., 1950, University of Michigan Law School; M.S., 1956, Ph.D., 1959, Wisconsin

**Spraggins, Mary P.** Instructor in English B.A., 1964, M.A., 1967, Denver

**Spurlock, William** Assistant Professor of Art B.A., 1970, Trinity; M.A., 1974, New Mexico

**Stahl, Saul** Assistant Professor of Mathematics B.A., 1963, Brooklyn; M.A., 1969, University of California, Berkeley; Ph.D., 1975, Western Michigan

**Stanton, Marjorie** Professor of Nursing and Associate Dean, School of Nursing B.S., 1957, M.A., 1960, Ed.D., 1975, Columbia



**Starks, Charles A.** *Assistant Professor of Education* B.A., 1965, Northern Colorado; M.Ed., 1967, Arizona; Ed.D., 1971, Ball State

**Steinohrt, William J.** *Associate Professor of Music* B.S.M.E., 1958, Illinois; M.F.A., 1968, Hawaii; D.M.A., 1971, North Texas State

**Stickney, Frank A.** *Associate Professor of Management* B.S., 1951, Boston University; M.B.A., 1955, U.S.A.F. Institute of Technology; Ph.D., 1969, Ohio State

**Stoesz, Willis M.** *Associate Professor of Religion* B.A., 1955, Minnesota; M.Div., 1958, Union Theological Seminary; Ph.D., 1964, Columbia

**Stofer, Robert** *Music Associate* A.B., 1941, Wabash; M.S.M., 1943, Union Theological Seminary

**Strickland, Kenton** *Instructor in Geology, WOBC* B.S., 1967, M.S., 1971, Bowling Green

**Stuckman, Ralph E.** *Associate Professor of Education, WOBC* B.S., 1960, Bowling Green; M.A., 1963, Toledo; Ed.D., 1969, Ball State

**Sturm, Gerald** *Instructor of Education* B.S., 1958, M.A., 1962, Central Michigan

**Suriano, J. Robert** *Professor of Microbiology; Associate Dean for Student Affairs and Admissions, School of Medicine* B.S., 1952, Fordham; Ph.D., 1959, Pennsylvania

**Sutch, Victor D.** *Associate Professor of History* B.A., 1946, Olivet Nazarene; M.A., 1948, Western Reserve; Ph.D., 1962, Colorado

**Swann, F. Richard** *Assistant Professor of History* B.A., 1952, Notre Dame; M.A., 1962, Xavier; Ph.D., 1971, Cincinnati

**Swanson, Donald R.** *Professor of English* B.A., 1953, Washington and Jefferson; M.A., 1955, Connecticut; Ph.D., 1965, Rutgers

**Swartz, Joan** *Instructor in Nursing* B.S.N., 1971, Cincinnati; M.S., 1975, Michigan

**Swinger, Alice K.** *Instructor in Education* B.S., 1966, Miami; M.S., 1970, Wright State

**Szyzek, Barbara J.** *Instructor in Nursing* B.S., 1973, Austin Peay; M.S.N., 1974, Kentucky

**Talbott, John C.** *Assistant Professor of Accountancy* B.S., 1965, M.S., 1970, D.B.A., 1974, Kentucky

**Tannenbaum, Leslie** *Assistant Professor of English* B.A., 1966, Brooklyn; M.A., 1968, Ph.D., 1972, Wisconsin

**Taylor, Paul J.** *Assistant Professor of Chemistry* B.S., 1964, Ph.D., 1971, Northern Illinois

**Tea, Barbara F.** *Associate Professor of Education* B.A., 1954, M.A., 1958, Ed.D., 1967, Kentucky

**Tettemer, Clair R.** *Associate Professor of Library Administration; Director of Telecommunications* B.S., 1942, M.A., 1947, Ph.D., 1962, Ohio State

**Thatcher, John P.** *Assistant Professor of Anthropology* B.A., 1964, Middlebury; M.A., 1968, Ph.D., 1971, Pennsylvania

**Thobaben, Robert G.** *Associate Professor of Political Science* B.S., 1948, Ohio; M.A., 1962, Miami; Ph.D., 1967, Cincinnati

**Thomas, Joseph F., Jr.** *Associate Professor of Physics* B.E.P., 1963, Cornell; M.S., 1965, Ph.D., 1968, Illinois

**Thompson, Nicholas J.** *Clinical Professor of Obstetrics and Gynecology and Department Chairman* B.A., 1938, Michigan; M.D., 1943, Cincinnati

**Throckmorton, Jerry J.** *Associate Professor of Accountancy* B.S., 1957, M.B.A., 1965, Miami; C.P.A., 1968

**Tiernan, Thomas O.** *Professor of Chemistry* B.S., 1958, Windsor, Ontario; M.S., 1960, Ph.D., 1966, Carnegie Institute of Technology

**Tilton, Rita** *Professor of Education and Business* B.S., 1954, Tulsa; M.A., 1962, Columbia; Ph.D., 1967, Minnesota

**Toman, Karel** *Professor of Geology* Dr. Techn., 1951, Technical University (Prague); C.Sc., 1957, Dr. Sc., 1965, Czechoslovak Academy of Sciences

**Tomlinson, Arline L.** *Senior Instructor in English, WOBC* B.A., 1962, Ohio Northern; M.A., 1970, Dayton

**Torres, Gertrude** *Professor of Nursing and Dean, School of Nursing* B.S., 1956, M.A., 1957, Ed.D., 1973, Columbia

**Tortoriello, Joanne E.** *Instructor in Library Administration; Documents Librarian, University Library* B.A., 1970, New Hampshire; M.A., 1971, Emerson

**Treacy, John J.** *Professor of Economics* B.S., 1957, South Carolina; Ph.D., 1963, Tulane

**Tyce, Richard S.** *Instructor in Library Administration; Acting Head of Reference and Reference Librarian, University Library* B.A., 1969, Cornell; M.L.S., 1973, Pittsburgh

**Ugbohue, Augustine I.** *Assistant Professor of Sociology* B.A., 1966, California Western; M.A., 1969, Ph.D., 1975, California (Los Angeles)

**Uphoff, James K.** *Associate Professor of Education; Dean of Branch Campuses, WOBC* B.A., 1959, Hastings; M.Ed., 1962, Ed.D., 1967, Nebraska

**Varella, Jane** *Music Associate* B.M., 1958, Eastman

**Vaughn, James W.** *Instructor in Art Education* B.S., 1958, Eastern Kentucky; M.Ed., 1961, Miami

**Vestegg, Richard E.** *Assistant Professor of Psychology* B.A., 1969, Yale; Ph.D., 1973, Michigan

**Von der Embse, Thomas** *Professor of Management and Department Chairman* B.S., 1960, Dayton; M.B.A., 1961, Indiana; Ph.D., 1968, Ohio State

**Vorherr, Philip H.** *Assistant Professor of Accountancy* B.B.A., 1964, M.B.A., 1965, Cincinnati; C.P.A., 1966

**Wachtell, Harvey** *Assistant Professor of History* B.A., 1961, Brooklyn; M.A., 1963, Ph.D., 1971, Missouri

**Wade, Eugene W.** *Associate Professor of Education* A.B., 1953, M.Ed., 1958, Miami; Ed.D., 1960, Indiana

**Waggner, Herman A.** *Associate Professor of Management* B.A., 1941, Mississippi College; M.B.A., 1969, Wright State

**Wagley, Robert A.** *Assistant Professor of Business* B.S., 1962, M.B.A., 1963, Ball State; Ph.D., 1974, Cincinnati

**Walbridge, Sharon L.** *Assistant Professor of Library Administration; Head of Cataloging, University Library* A.B., 1963, M.A., 1964, Western Michigan

**Walker, James L.** *Assistant Professor of Political Science* B.A., 1963, Santa Clara; M.A., 1964, Ph.D., 1974, California (Berkeley)

**Walters, George** *Assistant Professor of Education* B.A., 1963, Hope; M.A., 1966, Western Michigan; Ed.D., 1973, Northern Illinois

**Walters, William** *Assistant Professor of Philosophy* B.A., 1963, Occidental; M.A., 1965, Princeton; Ph.D., 1974, Massachusetts

**Warren, William D.** *Assistant Professor of Geography* B.A., 1959, Los Angeles State; M.A., 1964, California; Ph.D., 1972, North Carolina



**Wasson, Audley** *Music Associate* B.Mus., 1939, M.Mus., 1944, Chicago Musical College

**Wasson, Barbara** *Music Associate* B.A., 1940, Vassar; M.Mus., 1942, Chicago Musical College

**Webb, Ronald** *Instructor in Physiology* B.S., 1969, M.S., 1973, Ohio State

**Weinstein, Robert I.** *Assistant Professor of Economics* B.B.A., 1967, M.B.A., 1969, Missouri; Ph.D., 1974, Texas (Austin)

**Weissman, Stanley** *Adjunct Associate Professor of Chemistry* B.S., 1953, Roosevelt; Ph.D., 1959, Illinois Institute of Technology

**Welch, Myron** *Assistant Professor of Music* B.Mus., 1965, M.Mus., 1966, Michigan State; Ed.D., 1973, Illinois

**Welty, Gordon A.** *Assistant Professor of Sociology* B.A., 1965, Akron; M.A., 1968, Ph.D., 1975, Pittsburgh

**Weng, Byron** *Associate Professor of Political Science* B.A., 1957, National Taiwan; M.S., 1961, Ph.D., 1971, Wisconsin

**Wetmore, Thomas H.** *Professor of English* A.B., 1934, Lincoln Memorial; M.A., 1940, Duke; Ph.D., 1956, Michigan

**Wetter, Eldon J.** *Senior Instructor in Geography, WOBC* B.A., 1967, Wisconsin State (Platteville); M.A., 1969, Ohio State

**Wheat, Robert W.** *Professor of Microbiology and Department Chairman* B.A., 1948, Southwest Missouri State; M.S., 1951, New Mexico; Ph.D., 1955, Washington University

**Whippen, John A.** *Assistant Professor of Economics* A.B., 1967, State College at Boston; Ph.D., 1972, Colorado State

**Whissen, Anni** *Assistant Professor of Modern Languages and Department Chairman* B.A., 1957, Miami; M.A., 1961, Colorado

**Whissen, Thomas R.** *Professor of English* B.A., 1955, Kent State; M.A., 1963, Colorado; Ph.D., 1969, Cincinnati

**White, Ann** *Assistant Professor of Library Administration; Acting Assistant Dean of the University Library for Media Services* B.S., 1960, Bob Jones; M.A., 1967, Central State; M.Ed., 1971, Wright State; Ph.D., 1973, Ohio State

**White, Malcolm W.** *Adjunct Instructor in Marketing* B.A., 1955, Ohio Wesleyan

**White, Mary Lou** *Assistant Professor of Education* B.S., 1955, Akron; M.S., 1965, Wisconsin; Ph.D., 1972, Ohio State

**Whitson, George** *Visiting Assistant Professor of Mathematics* B.S., 1961, Mississippi; M.A., 1963, Massachusetts; Ph.D., 1974, Illinois

**Wietzel, Mary Ann** *Instructor in Education* B.S., 1968, Dayton; M.Ed., 1973, Wright State

**Wiley, Ronald L.** *Assistant Professor of Physiology* B.S., 1959, Miami; Ph.D., 1966, Kentucky

**Wilke, John Thomas** *Assistant Professor of Psychology, WOBC* B.A., 1969, Wright State; Ph.D., 1973, Arizona

**Williams, John T.** *Assistant Professor of Library Administration and Assistant Dean of the University Library for Public Services* B.A., 1949, Central Michigan; M.A.L.S., 1951, Michigan; Ph.D., 1973, Michigan State

**Williams, Richard E.** *Assistant Professor of Finance* B.S., 1964, Miami; M.A., 1965, Florida; Ph.D., 1975, Michigan State

**Willis, Craig D.** *Adjunct Associate Professor of Education; Dean of the University Division* B.A., 1957, Ohio Wesleyan; M.A., 1960, Ph.D., 1969, Ohio State

**Wilson, Warner R.** *Professor of Psychology* A.B., 1956, Chicago; M.A., 1958, Arkansas; Ph.D., 1960, Northwestern

**Winkeljohn, Dorothy** *Assistant Professor of Education* B.S., 1964, St. Joseph; M.S., 1969, Syracuse; Ph.D., 1972, Kansas

**Winslow, Leon E.** *Associate Professor of Computer Science* B.S., 1956, M.S., 1960, Marquette; Ph.D., 1965, Duke

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**Wittorf, Robert H.** *Assistant Professor of Library and Communication Science* B.A., 1959, Brigham Young; M.L.S., 1960, Pratt

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**Wood, David R.** *Associate Professor of Physics* A.B., 1956, Friends; M.S., 1958, Michigan; Ph.D., 1967, Purdue

**Wood, Merritt, Jr.** *Senior Instructor in History, WOBC* B.A., 1966, M.A., 1967, Arkansas

**Wood, Timothy S.** *Associate Professor of Biological Sciences* A.B., 1964, Earlham; Ph.D., 1971, Colorado

**Wurtz, Martha Harris** *Professor of Music* B.Sc., 1942, Central Missouri State; M.A., 1958, Ph.D., 1965, Washington University

**Yaffe, Alan** *Associate Professor of Theatre Arts* B.A., 1964, Washington University; M.A., 1968, American; Ph.D., 1972, Illinois

**Yalkut, Jud** *Assistant Professor of Art* City College, City University of New York; McGill University

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**Yuan, Tsing** *Associate Professor of History* B.A., 1960, M.A., 1962, George Washington; Ph.D., 1969, Pennsylvania

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**Schaefer, Donald J.** *Director of the Academic-Research and Instruction Computation Center* A.B., 1957, San Jose State; M.A., 1958, Ph.D., 1963, Ohio State

**Schmaus, David G.** *Bursar and Assistant Controller* B.S., 1968, Wright State

**Seaver, Charles D.** *Director of Physical Plant* B.S.M.E., 1950, Worcester Polytechnic Institute

**Shearer, Anne B.** *Director of Special Services and Assistant Dean, University Division* B.A., 1958, Howard; M.A., 1964, Atlanta; Ph.D., 1970, Ohio

**Smith, Alphonso L.** *Director of Affirmative Action Programs* B.S., 1959, M.S., 1964, Ohio State

**Spanier, Edward J.** *Associate Dean for Administration, School of Medicine* B.A., 1959, La Salle; Ph.D., 1964, Pennsylvania

**Spiegel, Andrew P.** *Executive Vice-President and Provost and Treasurer* B.A., 1948, Denison; LL.B., 1950, University of Michigan Law School; M.S., 1956, Ph.D., 1959, Wisconsin

**Suriano, J. Robert** *Associate Dean for Student Affairs and Admissions, School of Medicine* B.S., 1952, Fordham; Ph.D., 1959, Pennsylvania

**Thomas, Arthur** *Director of the Bolinga Black Cultural Resources Center* B.S., 1962, Central State; M.S.Ed., 1965, Miami; Ed.D., 1971, Massachusetts

**Topor, Robert S.** *Director of University Publications* B.F.A., 1958, Syracuse; M.A., 1971, University of Rochester

**Waddell, Mildred H.** *Administrative Assistant to the Vice-President and Director of Planning and Development*

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**Wilson, James E.** *Associate Director of Admissions Processing* B.A., 1969, Wilberforce; M.A.T., 1971, Antioch

**Wilson, Patsy L.** *Associate Registrar* B.S.B.A., 1972, M.B.A., 1973, Wright State







**Abbreviations**, used in course listings, 122

**Academic**: advisers, 33, 51, 69; organization, 9; regulations, 33

**Accountancy**: course listings, 123; degree program, 46; faculty, 45

**Accounting Technology**, associate degree program, 115

**Accreditation**, 12

**Actions**, scholastic, 33

**Administration**: course listings, 123; faculty, 198

**Administrative Officers**, listing, 198

**Admission**, undergraduate, 28

**Admission standards**: Business and Administration, 44; Education, 52; Liberal Arts, 68; Music, 77; Nursing, 110; Science and Engineering, 92; university, 28

**Advisers**, academic, 33, 51, 69

**Affirmative Action Program**, 9

**Alien students**, determination of residency, 36

**American College Testing Service (ACT)**, 8, 29

**Anatomy**: course listings, 124; program, 93

**Anthropology**: course listings, 124; degree program, 85; faculty, 84

**Application fees**, 29, 30, 37

**Applications**: admission, 29, 30; degree, 32; financial aid, 35

**Applied music**: course listings, 165; charge for, 37; degree programs, 79

**Art**: course listings, 125; degree programs, 70; faculty, 70

**Art Education**: course listings, 127; degree program, 54; faculty, 54

**Artist Series**, 25

**Associate of Applied Business**: course listings, 117; degree programs, 115, 116

**Associate of Arts**, degree program, 114

**Athletics**, intercollegiate, 22

**Audit**, course: fee, 37; policy, 32

**Baccalaureate degrees**: listed, 40; requirements for second, 40

**Bachelor of Arts degree**, general requirements for: Liberal Arts, 68; Science and Engineering, 93

**Bachelor of Fine Arts degree**, general requirements for, 69

**Bachelor of Music degree**, general requirements for, 69

**Bachelor of Science degree**, general requirements for: Liberal Arts, 69; Science and Engineering, 92

**Bachelor of Science in Business degree**, 44

**Bachelor of Science in Education degree**, 52

**Bachelor of Science in Nursing Degree**, 111

**Basic Education Opportunity Grant (BEOG)**, 35

**Biological Chemistry**: course listings, 129; program, 93

**Biological Sciences**: course listings, 129; degree programs, 94; faculty, 93

**Biological Sciences-Education**, degree program, 55

**Board of Trustees**, listing, inside front cover

**Bolinga Black Cultural Resources Center**, 14

**Bookstore**, 20

**Branch Campuses**: associate degree programs, 114; described, 115; faculty, 114; mentioned, 11; technical course listings, 117

**Brehm Laboratory of Natural Sciences**, mentioned, 7

**Business and Administration**, College of: admission, 44; degree requirements, 44; degrees offered, 44; described, 9; fields of study, 9, 44

**Business Education**, degree program, 56

**Business Management Technology**, associate degree program, 116

**Calendar**, University, ii

**Campus**, described, 3

**Campus student organizations**, 24

**Career Planning and Placement Department**, 19

**Caucus**, Student, 24

**Certification**, 53; admission of candidates, 30

**Changes**: registration, fee for, 37; program, 31

**Changes and fees**, schedule of, 37

**Checks**: fee payment by, 36; returned, 37; penalty for, 37

**Chemistry**: course listings, 132; degree programs, 96; faculty, 95

**Chemistry-Education**, degree program, 56

**Classics**: course listings, 134; degree program, 71; faculty, 70

**Class rank**, defined, 32

**College Work-Study Program**, 35

**Commencement**, 32

**Comparative Literature**, course listings, 134

**Computer Science**: course listings, 135; degree program, 97; faculty, 97

**Consortium**. See Dayton-Miami Valley Consortium

**Continuing and Community Education**, College of, described, 11

**Counseling Services**, 20

**Course**: additions, 31; audit, policy, 32; changes, fees for, 37; drops, 37; load, 31; numbering system, 122; repeat, policy, 32

**Creative Arts Center**, mentioned, 7

**Credit**: by examination, 12

**Credit hour**, defined, 31

**Cross Registration**, Consortium, 13

**Cumulative average**, 31

**Dance**, course listings, 136

**Dayton-Miami Valley Consortium**: cross-registration, 13; library facilities, 13

**Deadlines**: degree applications, 32; fee payments, 36; financial aid applications, 35; program and course changes, 31; registration, 31

**Dean of Students**, office of the, 19

**Dean's List**, 32

**Degree applications**, deadlines, 32

**Degrees**: offered, 40; university requirements, 40; See also individual degree programs.

**Dependent students**, financial aid for, 35

**Developmental Education**, 11

**Dining facilities**, 24

**Dismissal for scholarship**, 33

**Distributive Education**, degree program, 57

**Dormitory**. See Residence Hall

**Drafting and Design Technology**, associate degree program, 116

**Drops**, course: fee for, 37; procedure, 31



**E**arth Science-Education, degree program, 57  
 Economics: course listings, 136; degree program, 71; faculty, 71  
 Economics-Education, degree program, 58  
 Education, College of: admission and retention standards, 52; advising, 51; certification, 53; degree programs, 54; degree requirements, 52; faculty, 54; fields of study, 51  
 Education: course listings, 137; faculty, 54  
 Educational Media, 51; degree program, 58  
 Elementary Education, degree program, 58  
 Elementary Health, 59  
 Employment, student, 35  
 Engineering: course listings, 142; degree programs, 99; faculty, 99  
 Engineering Geology, 102  
 Engineering Physics, degree program, 100  
 English: course listings, 145; degree program, 72; faculty, 72  
 English-Education, degree program, 61  
 Environmental Health, degree program, 95  
 Environmental Studies: course listings, 147; degree programs, 72, 101  
 Executive Officers, listing, inside front cover

**F**aculty, listing, alphabetical, 187; described, 14  
 Fees: payment of, policy, 31; schedule of, 37  
 Fields of study, listing, 40  
 Finance: course listings, 147; degree program, 47; faculty, 46  
 Financial aid, application for, 35  
 Fines, library, 37  
 Founders Quadrangle, mentioned, 7  
 French: course listings, 148; degree program, 76  
 Freshman, defined, 32

**G**ED, high school equivalency test, 28  
 General Education requirements, 40; See also individual degree programs.  
 General Science-Education, degree program, 61  
 General Secretarial Technology, associate degree program, 115  
 Geography-Education, 61  
 Geography: course listings, 149; degree programs, 73; faculty, 73  
 Geology: course listings, 151; degree programs, 102; faculty, 102  
 Geophysics, degree program, 103  
 German: course listings, 153; degree program, 77  
 G.I. Bill, benefits, 36  
 Government. See Political Science.  
 Grade reports, 31  
 Grading system, explained, 31  
 Graduation: fee, 37; with honors, 33  
 Grants-in-aid, 35  
 Greek: course listings, 154; degree program, 71  
*Guardian*, student newspaper, 25

**H**andicapped Student Services, 20  
 Health Education: course listings, 154; degree program, 63; faculty, 54  
 Health, Physical Education, and Recreation: course listings, 154; faculty, 54; Health Service, 20  
 High School students, superior, admission procedure, 30  
 History: course listings, 156; degree program, 75; faculty, 75  
 History-Education, degree program, 62  
 History of the university, 6  
 Honors, graduation with, 33  
 Honors Program. See University Honors Program.  
 Housing, 24  
 Human Factors Engineering, degree program, 101

**I**nsurance. See Finance.  
 Inter-Club Council, 25  
 Interdisciplinary study, 13  
 Intercollegiate athletics, 22  
 International Business, degree program, 47  
 International Study Program, 13  
 Intramural sports, 22

**J**ob placement, 19  
 Junior, defined, 32

**K**ettering, Eugene W., Engineering and Science Center, 14

**L**anguages. See Classics and Modern Languages.  
 Latin: course listings, 158; degree program, 71  
 Latin-Education, degree program, 62  
 Law and Graduate School Advising and Consortium Activities, Center for, 13  
 Liberal Arts, College of: admission, 69; course listings, 159; degrees offered, 68, 69; described, 68, 69; dual majors, 69; fields of study, 68; teacher certification, 69  
 Library. See University Library.  
 Library and Communication Science, course listings, 159  
 Library fines, 37  
 Linguistics, course listings, 160  
 Lost and found, 20



**Management:** course listings, 160; degree program, 47; faculty, 47

**Mandatory advising,** defined, 33

**Marketing:** course listings, 161; degree program, 48; faculty, 48

**Married students:** financial aid for, 35; residency determination, 36

**Mathematics:** course listings, 162; degree programs, 104; faculty, 103

**Mathematics-Education,** degree program, 63

**Medical care,** 20

**Medical Technology,** degree program, 95

**Memberships,** university, listed, 12

**Microbiology,** course listings, 165; program, 105

**Military personnel,** residency, 36; determination, 36

**Modern Languages:** course listings, 164; degree programs, 76; faculty, 75

**Modern Language-Education,** degree program, 63

**Modern Languages-Humanities,** course listings, 164

**Motion Pictures:** course listings, 164; degree program, 88; faculty, 85

**Music:** course listings, 165; degree programs, 78; faculty, 77

**Music Education:** course listings, 166; degree programs, 88

**National Association of Schools of Music,** accreditation, 12, 77

**Newspaper,** student, 25

*Nexus,* mentioned, 25

**Nondegree undergraduate students,** admission procedure, 30

**Nonresident students:** admission, 28; residency determination, 36; tuition, 37

**North Central Association,** accreditation, 12

**Nursing, School of:** admission, 110; course listings, 167; degree program, 111; faculty, 110; financial aid programs, 35; philosophy, 111

**Office Administration:** course listings, 167; degree program, 48; faculty, 48

**Office of Financial Aid,** 35

**Ohio Instructional Grant program (OIG),** 35

**Ohio residency,** rules governing, 36

**Organization,** academic, 9

**Organizations,** student, 24

**Packaging Engineering,** 100

**Parents' Confidential Statement (PCS),** 35

**Performing arts,** 25

**Petitions:** exception to scholastic action, 34; readmission after dismissal, 34

**Philosophy:** course descriptions, 168; degree program, 82; faculty, 82; university, 9

**Physical Education:** course listings, 154; degree program, 64; faculty, 54

**Physical Education Building,** mentioned, 7

**Physical Geography,** degree program, 74

**Physics:** course listings, 169; degree programs, 106; faculty, 106

**Physics-Education,** degree program, 64

**Physiology,** course listings, 171; program, 107

**Piqua Resident Credit Center,** 12, 114

**Political Science:** course listings, 171; degree program, 82; faculty, 82

**Political Science-Education,** degree program, 64

**Psychology:** course listings, 174; degree programs, 108; faculty, 107

**Publications,** student, 25

**Public Education Religion Studies Center (PERSC),** 14

**Purposes of the university,** 8

**Quantitative Business Analysis:** course listings, 176; degree program, 48; faculty, 48

**Radio station,** 25

**Rank, class,** defined, 32

**Readmission,** after dismissal, 34

**Real Estate.** See Finance.

**Registration:** late, charge for, 37; procedure, 31

**Regulations:** Ohio residency, 36; on-campus credit, 33; scholastic, 33

**Rehabilitation:** course listings, 177; degree program, 64

**Religion:** course listings, 177; degree program, 84; faculty, 83

**Repeat of courses,** policy, 32

**Research,** university statement of purpose, 8

**Residence Hall,** 24

**Residency, Ohio,** rules governing, 36

**Resource Management,** degree program, 74

**Returned checks,** penalty for, 37

**Returning student,** admission of, 30

**ROTC program,** 13

**Russian,** course listings, 179

**Schedule of fees and tuition,** 37

**Scholarships,** 35

**Scholastic Aptitude Test (SAT),** 29

**Scholastic regulations,** petition for exception to, 34

**Science and Engineering, College of:** admission, 92; degrees offered, 92; described, 92; fields of study, 92; teacher certification, 93

**Secondary Education:** degree requirements, 52; teaching fields, 51

**Secretarial Technology,** associate degree program, 115

**Security and Parking Services,** 20

**Selected Studies,** degree program, 90

**Senior,** defined, 32

**Service,** university statement of purpose, 8

**Short-term loans,** 35

**Social Studies-Education,** degree program, 65

**Social Work:** course listings, 179; degree program, 85; faculty, 84



Sociology; course listings, 180; degree program, 84;  
 faculty, 84  
 Sociology-Education, degree program, 65  
 Sophomore, defined, 32  
 Spanish: course listings, 182; degree program, 77  
 Special Education, degree program, 66  
 Speech and Hearing Science: course listings, 183; degree  
 program, 86; faculty, 85  
 Speech and Theatre Education, degree program, 66  
 Speech Communication, course listings, 182  
 Sports, intramural, 22  
 Student: Caucus, 24; life, 22; organizations, 24;  
 publications, 25; services, 18  
 Student's Financial Statement (SFS), 35  
 Study Skills, course listing, 184  
 Superior high school student, 30  
 Supplemental Education Opportunity Grant (SEOG), 35  
 Systems Engineering, degree program, 99

**Teacher education.** See College of Education.  
 Teaching: certification, 53  
 Technical course descriptions, 117  
 Technical degree programs, 114  
 Tests: ACT, SAT, 8, 29; credit by examination, 12  
 Theatre Arts: course listings, 184; degree programs, 87;  
 faculty, 85  
 Theatre, University, 25  
 Transcripts: fee, 37; required for admission, 28  
 Transfer students, admission, 29  
 Tuition: nonresident, 36; schedule of, 37  
 Tunnel system, mentioned, 4

**Unclassified student,** defined, 30  
 University: bookstore, 20; degree requirements, 40;  
 environment, statement of purpose concerning, 9; history  
 of, 6; petitions committee, 34  
 University Center, 20  
 University Center Board, 20  
 University Division: course listings, 186; described, 11  
 University Honors Program, 13  
 University Library, 14  
 University Theatre, 25  
 Urban Planning, degree program, 74  
 Urban-Economic Geography, degree program, 74  
 Urban Studies: course listings, 186; degree programs, 74

**Veterans' benefits,** 36  
 Vocational Office Education, certification requirements, 51

**Warning,** placement on, defined, 33  
 Western Ohio Branch Campus, 11, 114  
 Work-Study Program, 35  
 Wright brothers collection, University Library, 14  
 Wright Start, 11  
 Wright State Campus, creation of, 6  
 Wright State University Foundation scholarships, 36  
 WWSU, 25

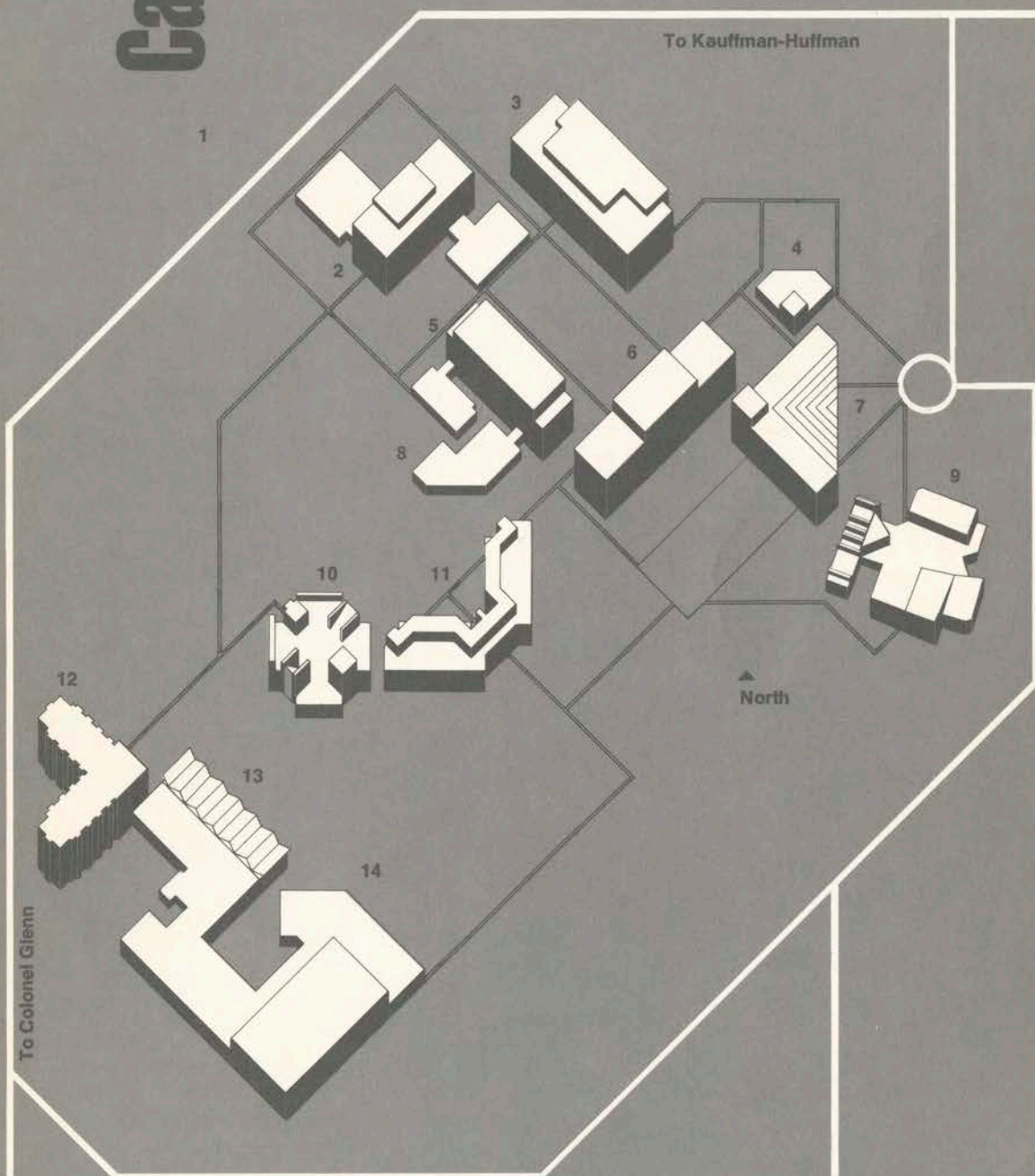
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# Campus Map

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|-----------------------------------|---------------------------------|
| 1 Visitor Parking/Information     | 8 Brehm Laboratory              |
| 2 Allyn Hall                      | 9 Creative Arts Center          |
| Office of Admissions, first floor | 10 Medical Sciences Building    |
| 3 Millett Hall                    | 11 Biological Sciences Building |
| 4 Television Center               | 12 Residence Hall               |
| 5 Oelman Hall                     | 13 University Center            |
| 6 Fawcett Hall                    | 14 Physical Education Building  |
| 7 University Library              |                                 |





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